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TWENTY-NINTH ANNUAL REPORT  
OF THE  
STATE BOARD OF HEALTH,  
OF THE  
STATE OF RHODE ISLAND,  
FOR  
THE YEAR ENDING DECEMBER 31, 1906.  
AND INCLUDING  
THE REPORT UPON THE REGISTRATION OF  
BIRTHS, MARRIAGES, AND DEATHS IN 1905.



PROVIDENCE :  
E. L. FREEMAN COMPANY, STATE PRINTERS.  
1912.

# MEMBERS

## OF THE

# RHODE ISLAND STATE BOARD OF HEALTH.

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*Post Office Address.*

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GARDNER T. SWARTS, M. D., *Secretary*

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ASSISTANT CLERK.....	BUTLER L. CHURCH.
CLERK OF VITAL STATISTICS.....	HELEN R. ALMY.

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*To the Honorable General Assembly:*

In compliance with the General Laws, the Annual Report of the State Board of Health is hereby respectfully submitted.

GARDNER T. SWARTS, M. D.,

*Secretary.*

## GENERAL REPORT.

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The work of the State Board of Health during the year has been a continuation of the study of the various conditions pertaining to the public health of the State, utilizing the various improved methods of investigation which have been made available during the past decade. It is one of the duties of the State Board of Health to examine physicians desiring certificates authorizing them to practice medicine and surgery in the State.

A more detailed report of the different lines of work will be found in the latter part of this report, the general report covering what may be termed a synopsis of the work.

### CONTAGIOUS DISEASES.

During the year the monthly reports of the health officers of the several towns were received giving the number of cases of contagious diseases occurring in each city and town.

The diseases which are usually reported by physicians are scarlet fever, diphtheria, and typhoid fever. Some few report cases of measles and whooping cough. In Newport and Providence, ordinances require a report of cases of tuberculosis, but this regulation is not well observed.

During some years there appears an unusual prevalence of one or more of these communicable diseases. In 1906, there was a marked increase in the number of cases of scarlet fever over the average. This increase was due to prevalence of the disease in Providence and Newport. Measles was quite prevalent this year, the largest number of cases being in Providence and Newport. Typhoid fever and diphtheria were reported at about the average amount.

## WATER SUPPLIES.

The regular routine examination of all public water supplies of the State has been continued and valuable data is being acquired which is of practical use in showing the variations in the supplies which may occur from time to time. A tendency to deterioration in any supply can be discovered by these tests which have been made monthly on all supplies and oftener in some cases. The proper authorities are notified of changes observed. They are then in a position to take action on the facts presented and suggestions made toward any improvement of conditions.

Beside the regular water analyses, determinations have been continued this year to acquire additional data concerning the normal distribution of chlorine in the State, which was presented in the last report of this Board. These determinations have been secured in connection with analyses of the regular samples, also from special samples from wells of known purity, and the results obtained have borne out the figures previously recorded. These figures are of value as showing what a water from a certain location might be expected to contain in chlorine.

This year two supplies were added to those which are regularly examined by the department. These were the supply of the State Sanatorium at Wallum Lake, which is taken from the lake, and the supply of the Pascoag Water Co., which supplies Pascoag.

The supply of the State Sanatorium was examined twice this year and was shown to be a soft, pure supply, low in color, and in every way satisfactory except for a very faintly vegetable or unpleasant odor occasionally, due to the presence of certain algæ.

The Pascoag supply is taken at times from springs on a side-hill which are collected in a gallery and then pumped from a pump well. At other times when the supply from these springs is inadequate, the company utilizes two artesian wells which are driven near the pumping station, this being mixed with the water from the springs in the pump well. The supply from the springs is soft and is a



normal water for the district. As would be expected, the water from the deep wells is much harder, but not excessively so. Both supplies are pure, the only point to which exception could be taken is the occasional presence of a positive test for *B. coli communis* which is due to the presence of pasturage in the vicinity of the springs. This point was brought to the attention of the water company, and they will take steps to control this condition, if necessary by acquiring more land, so that the pasturing of cows can be stopped and the vicinity of the springs fenced off.

The supply of the Manville Company, which supplies part of the village of Manville, is quite variable in color according to whether the supply is in the main from the spring or the brook.

The supply of Woonsocket is received from a large water-shed which is owned or controlled by the city. The water-shed is controlled by occasional inspection by the water department. Practically no habitations are located on the area. Since the alarm occasioned by the presence of workmen on the water-shed during the construction of the Providence & Burrillville railway, in 1904, was allayed, no invasion which would tend to pollute the water to any extent has been discovered. The supply is a sanitary one as far as the chemical and bacteriological analyses show, but owing to the nature of the surrounding land and the bottom of the reservoirs, the water has a high color and a vegetable or woody taste. The high color is produced by extraction of the vegetable growth, which is continually soaking in the reservoirs.

The water-shed of the Newport supply is still open to pollution from the excreta of cows and fowl which feed along the banks of the brooks supplying the reservoirs. The water is not very high in color, but the taste is objectionable on account of the presence of algæ and the organic matter which are variable with the season. The water company has not yet felt warranted in providing filtered water for the consumers.

The town of Bristol and the Bristol & Warren Water Company still have the question of valuation of the plant, water rights, and

privileges before a master with a view to some settlement by which the town of Bristol may take over the plant and operate it. The high color and woody taste of this supply still continues and the supply is not one to be relied upon from a sanitary standpoint as brought out in the communications issued by this Board to the water company and the towns during 1902 and 1903.

The water supply of Pawtucket remains of the same general quality and stands well with the average unfiltered supplies. The city continues to make an inspection of the streams contributing to the supply. They still utilize the so-called filter constructed with large stones and pieces of charcoal for the assumed purpose of filtering the water, an impossible result with such a form of filter. During the latter part of this year, in October and November, this supply caused much complaint from the consumers on account of the presence of certain "algæ" forms, mostly protozoa, in the supply.

The supply of Jamestown has not been changed in any way during the year, neither has that of Wakefield and Narragansett Pier, and both supplies produce a colored water which is rather objectionable at times on account of the amount of organic matter present. The sanitary analyses, however, show these supplies on the whole to be in a safe condition.

The supply of Westerly which is taken from driven wells continues to be the best water for a public supply which is being delivered in the State. This supply is owned by the town. The only other supplies under municipal control are those of the cities of Providence, Woonsocket and Pawtucket.

The Block Island water supply, although low in color, contains numerous growths of algæ from time to time, which produce disagreeable odors and taste in the water.

The four public supplies in the Pawtuxet Valley have remained unchanged. These supplies are all operated by private companies and all of the supplies are of good quality. These supplies are those of the East Greenwich Water Company, The Pawtuxet Valley Water Company, The Warwick and Coventry Water Company, and Knight's Spring.

The study of the efficiency of the mechanical filtration plant at East Providence has been continued and has shown that this plant maintains its ability to purify this supply to a satisfactory quality.

The slow sand filtration plant at Providence, which was begun in 1902, was completed during December, 1905, and this year the city has been supplied with filtered water for the first time. The beds which were constructed without covers do not resist the formation of ice as had been predicted by the eminent engineers who approved the plans. During the winter the sand beds became frozen over and much work was made necessary, and it was with great difficulty that the ice was removed from the beds so that they might continue in use. This condition demonstrated the necessity for more beds and for covers.

Accordingly, another new contract was entered into by the city, calling for the construction of two more beds, making ten in all, and for the covering of all ten of the beds. At the end of this year seven beds had been completed under the other contract without covers, giving a capacity of 21,000,000 gallons a day if all beds were running. The eighth bed was finished with the exception of placing the sand and the gravel, and the floor of this bed has been prepared for placing columns to support covers. The walls and floors of the last two new beds authorized (No. 9 and 10) had been completed.

During the winter, beginning in February, complaints began to be made of a disagreeable odor and taste in the Providence water supply. These complaints came mostly from the "East Side," and investigation showed that they were entirely from consumers who received water which had passed through Hope Reservoir. Microscopical examination made by this department revealed the fact that while the water from the Sockanosset Reservoir was practically free from "algæ," the water in Hope Reservoir, and that in Fruit Hill Reservoir, which had passed through Hope Reservoir, was full of a growth of many forms of "algæ," principally diatoms (*asterionella* and *tabellaria*), and at times contained certain protozoa (*synura* and *dinobryon*). This condition continued up to the time Hope Reservoir

was emptied in May, for the purpose of repairing a leak of long standing.

The inspection of water-sheds by a special detailed inspector, which was commenced last year, was limited this year to the examination of the water-shed of the Bristol & Warren supply. The inspector's report is reproduced in another section of this report.

#### SEWAGE PURIFICATION PLANTS.

As in previous years, the Board has maintained an examination of the working of the several sewage disposal plants by analyzing regular samples of the crude sewage received and of the effluent from the plants. The Board has also co-operated with the authorities having charge of the works and when any conditions developed which needed special investigation, such work was taken up. During this year difficulties arose at the Pawtucket sewage plant, which will be taken up later in the detailed part of this report. This required considerable study and numerous analyses in order to ascertain the cause of the trouble, how to overcome it, and in watching the work of the beds subsequently.

The processes used at the different plants differ considerably and the study of the various methods and the work obtained, puts this Board in a position to intelligently advise other cities or towns contemplating treatment of their sewage, or in making changes in the methods previously in use.

This year analyses were made of crude sewage and effluent from the plants of the cities of Central Falls, Pawtucket, Providence, and Woonsocket, and from the sewage disposal plant at the State Sanatorium.

#### CONTRACT WITH THE UNITED STATES GEOLOGICAL SURVEY.

During the year the Board availed itself of the opportunity offered by the United States Geological Survey, to secure an examination

of the quality of the waters of two of the most important streams in the State, passing as they do directly through the center of the city of Providence. The two rivers known as the Moshassuck and the Woonasquatucket are utilized for the disposal of the wastes from numerous manufacturing establishments carrying on varied industries. Being utilized in this way for many years they have become grossly and offensively polluted. They unite near the center of the city of Providence, and come into contact with tidal salt water. The result of decomposition of the organic matter in the streams during their course to the city, and the chemical changes resulting from union with the saline contents of the bay into which the rivers enter, produce noxious odors.

The work was made possible under the condition that the State Board of Health should assume one-half of the expense of the investigation, the other half to be borne by the U. S. Geological Survey, but it could not have been considered had not the laboratories of the Board been in operation.

The inspections, drafting, collections and analyses required, have been executed by Mr. Herman Stabler, representing the U. S. Geological Survey and Mr. Gilbert H. Pratt, the chemist of this Board.

The work was begun August 1st of this year, thus five of the eleven months arranged for in the contract with the government have passed, and the work will, when completed, furnish extremely valuable information for manufacturers, health boards and municipalities interested.

#### LABORATORIES OF THE BOARD.

The chemical laboratory of the Board has continued under the direction of Gilbert H. Pratt, as chemist. The bacteriological laboratory which last year was put under the direct supervision of the Board and located in the State House has been in charge of Dr. Gardner T. Swarts, as Chief Baeteriologist, and Paul F. Clark has served as assistant baeteriologist.



## WIDAL TEST FOR TYPHOID FEVER.

Examinations of specimens of a drop of blood taken from persons suspected of having typhoid fever were continued, serving to assist physicians in confirming a doubtful diagnosis.

During the year there were made 354 examinations, of which 119 gave a positive reaction.

## TUBERCULOSIS.

The increased attention given to the diagnosis of tuberculosis by physicians has increased the number of cases in which examination of the sputum has been asked for. For the protection of the community the work of examination of sputum from cases of suspected tuberculosis, free for physicians, was continued. This year 1,167 specimens were examined, of which 439 showed the presence of the bacilli of tuberculosis. The work was commenced in 1895 and has been continued ever since, being of great value to physicians in confirming their diagnosis or correcting it in case of doubt.

Literature and directions for care of those sick with the disease, have been distributed to physicians having cases of tuberculosis under their care, to be given by them to the patient or some member of the family at their discretion.

As a special precaution, spit cups for the use of those having consumption have been distributed free to all who apply for the same. As these can be destroyed with their contents at frequent intervals this serves as a valuable assistance in the prevention of the careless spread of the sputum which is a factor in the extension of the disease. The careless spitter is not only thus taught a means of securing cleanliness and safety for others, but he is also impressed with his opportunity to prevent the organisms being ingested or inhaled by himself and reproducing the disease in other parts of his own system, in addition to the portion of the lungs already invaded.

A requirement that cases of tuberculosis shall be reported to a

health department exists in the cities of Providence and Newport. In Providence, this rule was passed by the Board of Aldermen of that city, with the indorsement of the Providence Medical Association. As was expected, in both cities, physicians give but slight heed to the rule and the reports of cases are made by only a few physicians who have some respect for constituted authority. The results of these reports are to be found in the detailed report of the Superintendent of Health of Providence, and in the extracts from the report of the Newport Board of Health, to be found in another portion of this volume.

The Newport Association for the Relief and Prevention of Tuberculosis, which was organized March 19, 1904, has continued its work in a quiet way. The South Kingstown Health League, which was formed February 6, 1905, has continued also.

During the early part of this year a committee styled the "Committee on the Relief and Control of Tuberculosis of the Providence Society for Organizing Charity," was formed, which inaugurated a systematic attempt to organize an anti-tuberculosis campaign in that city.

As one of the important methods of education of the public in such a campaign, a formal request was made by this committee to the General Assembly for a special appropriation, to be utilized by the State Board of Health and this committee, in the presentation of a tuberculosis exhibit. A resolution carrying an appropriation of \$1,200 was introduced at the January session, but did not receive favorable action.

This committee, on November 1, 1906, organized a district association or league under the title of the "Providence League, for the Suppression of Tuberculosis," and commenced an active campaign to carry out work in its field.

*State Sanatorium.*—Although this State institution is not in any way under the control of the State Board of Health, its functions are so primarily those bearing on the health of the State as influenced by tuberculosis, it seems proper to include in the report of this Board a

concise statement of some facts pertaining to this institution. In the latter part of this report will be found such a statement.

During this year, extra precaution against fire and a saving of steam has been accomplished by the erection of a water tower and the installation of a gas engine in the pump house near the lake.

During the year 288 patients have been treated, sixteen of them have been discharged as "apparently cured," sixty with the disease arrested, forty-seven have left without apparent betterment. The number of patients remaining at the end of the year was 104. The daily average occupancy was 88.3 patients; the weekly cost per capita for operation of the institution was \$10.30; and the average daily cost for food per capita was \$0.43+.

For operating the plant an appropriation of \$50,000 was made available by the General Assembly, and \$5,000 as a special appropriation was utilized for the water tower and installation of the sprinkler system in the laundry and kitchen.

*Hillsgrove Tuberculosis Hospital.*—The branch hospital at Hillsgrove, conducted under the management of the St. Joseph's Hospital, continued to carry on the good work of caring for chronic and incipient cases alike. This is the only hospital in the State which will receive advanced cases. This retreat was opened in 1905.

*Pine Ridge Camp.*—This camp for the care of tuberculosis patients was continued throughout the year as previously, it having been started in 1903.

#### DIPHTHERIA.

The practice of examining cultures taken from throats of suspected cases of diphtheria, inaugurated in 1894, has been continued.

During the year there were examined 1,006 specimens, of which number, 266 gave a positive test for the presence of diphtheria bacilli.

*Antitoxin.*—Free antitoxin also has been distributed to physicians for use in cases of diphtheria when the patient was too poor to purchase the same. This practice has also been maintained by yearly



special appropriations since 1895, assuring much relief from suffering and the saving of many lives. During this year, 333 packages of 2,000 units each were thus distributed.

#### MEETINGS OF THE BOARD.

Four meetings of the Board were held during the year. At these meetings the examinations presented by the candidates for license to practice medicine were considered, also various matters pertaining to the general work of the Board.

Among the matters acted upon was the making of the contract with the United States Geological Survey, with regard to the work on the rivers as previously mentioned, and the matter of certain rules in connection with the examinations under the Medical Practice Act.

#### WORKING OF THE MEDICAL PRACTICE ACT.

Four examinations for license to practice medicine have been held. Eighty-five applications were received for examination; of these fifty-five passed, receiving the required 75 per cent., and thirty failed. Additional data, including the percentages obtained by the applicants given under the schools from which the candidates graduated, appears in another part of this report.

Certain changes in the regulations pertaining to the conduct of the examinations have been made and will be explained more fully later. These changes require that the applicant file a recent photograph of himself when appearing for the examination, also that no interpreter shall be available to the applicants, the examination to be conducted in the English language.

During the year, the decision of the supreme court in the case of Dr. William S. Macomber, whose license had been revoked by this Board as brought out in the last report, was handed down and was against the judgment of this Board, and it was ordered that the decision of the Board to revoke his license to practice be annulled.

This remarkable decision is reproduced in another part of this report, one member of the bench dissenting.

The exceptions filed by Thomas J. Heffernan to the verdict obtained against him in the Superior Court were not allowed and it was ordered that the verdict stand, the case being remanded to the superior court for sentence. Subsequently, the defendant took steps to procure an arrest of judgment, and the case was still before the court on this motion at the end of the year.

In November, 1905, the case against Severe Paquin, a cobbler by profession, was heard in the superior court on appeal and the defendant was sentenced to pay a fine of \$100, this being his second conviction. The evidence was to the effect that the defendant had treated a woman for typhoid fever, she dying soon after.

#### SPECIAL PUBLICATION BY THE BOARD.

In addition to the issuance of the Monthly Bulletins of the Board, by special arrangement the Board was enabled to publish all the sanitary laws which had been passed in the United States during the year 1906, the collection, compilation, and proof corrections being made voluntarily by Dr. Chapin, Superintendent of Health, of Providence. This was the second year Dr. Chapin had made such a compilation, and it was much appreciated by health officials all over the country, judging by the numerous requests received for the issue.

#### TYPHOID FEVER.

During the year there were three outbreaks of typhoid fever, all of which were traceable to milk supplies. During these occurrences not only the customers, but members of the family of the producer were sufferers from the disease.

A detailed report of these outbreaks will be found in the report of the Superintendent of Health of the city of Providence.

## SMALL POX.

During the year three cases of small-pox were discovered, one in the city of Providence, the conditions associated therewith being described by the Superintendent of Health of Providence in his report, and two cases which occurred in Pawtucket, both of these latter being employed in the city of Providence.

## RABIES.

With the outbreaks of rabies in neighboring states several dogs affected with this disease wandered into or passed through this State inflicting bites upon human beings, and upon other dogs and cattle. This necessitated the enactment of ordinances in the different cities and towns for the control of the spread of hydrophobia. The regulations varied in the different towns, requiring the muzzling of dogs for variable periods. The destruction of cattle which had been attacked, and the treatment of people who had been bitten utilizing the Pasteur anti-rabies methods formed a part of the control of the disease. The various experiences of the several towns with this disease is further described in this report.

## NEW MILK LEGISLATION.

Owing to the lack of control of the dealers in milk under the existing law, which provided only for the punishment of the offender after redress to the courts, involving long litigation with repeated appeals, a law was passed this year by the General Assembly providing for a license system in all cities and in those towns which desired to avail themselves of the new law. This law was strongly urged by the milk inspector of Providence and by the city government of that city through the city solicitor.

New legislation also provided for a penalty for misusing any utensils used for the transportation, handling or sale of milk.

These laws are reproduced later in this report.

## CLEAN MILK FOR BABIES.

An effort was made in the city of Providence under the auspices of a *committee of physicians* to provide a pure supply of milk for a limited number of babies in certain districts during the summer months. The working out of this plan is described in another part of this report.

## NARCOTIC LAW.

Complaints of physicians from time to time indicated that druggists were supplying unrestricted quantities of narcotics to persons who were becoming addicted to their use to the extent of injury to their body and mind. The existing laws provided no control of this traffic and opium, morphine or cocaine were obtainable in any quantity from unscrupulous dealers. The dealers became well known to the people and the sale of these drugs was increasing. A local physician taking a personal professional interest in the conditions, secured the draft of a law which would provide for control of this evil. This law was thoroughly considered by the Pharmaceutical Association and was passed by the General Assembly.

The provisions of the law are given in the latter part of this report.

## HEALTH EXHIBIT.

At the annual meeting of the American Medical Association held this year in Boston, Mass., this Board, in conjunction with the State Sanatorium Commission, presented an exhibit consisting mainly of photographs, views and plans of the Rhode Island State Sanatorium. This exhibit was made in connection with a general health exhibit at the new Harvard Medical School buildings and presented a creditable appearance.

## APPROPRIATIONS.

For the year 1906 there was appropriated by the General Assembly, for the general expenses of operation of the Board, the same amount as in the previous year, namely, \$6,000.

For continuing the study of tuberculosis in man, a special appropriation of \$1,500 was granted, and for use in the control of diphtheria, the sum of \$1,500 was appropriated.

## PERSONNEL OF THE BOARD.

The term of Samuel M. Gray, C. E., member of the Board from Providence county, expired this year.

Governor George H. Utter, with the advice and consent of the senate, re-appointed Mr. Gray for a term of six years, ending January 31, 1912.

## EXTRACTS FROM REPORTS OF TOWN OR CITY CLERKS AND HEALTH OFFICERS.\*

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It has been observed, in the previous issues, that a complete annual report of a State Board of Health properly includes an account of the measures taken each year by the municipal authorities, corporations, or individuals for the promotion of the health of the communities under their respective supervision or control. In order, therefore, to ascertain the facts in relation to such measures, and for the purpose of presentation in this report as in the reports heretofore issued, and in the continuance of the design to keep well informed of all proceedings throughout the State on the part of town or city councils or any form of municipal authority in the appointments of health officers or boards of health, and in the direction of improvements which have in view and seem to promise the promotion of public health by the abatement of nuisances or the removal of unsanitary conditions and surroundings, or by the introduction of water for general use, or construction of sewers, or the establishment of other public works which may not only be of great public utility and convenience, but also serve in some measure, large or small, in the prevention of disease, the secretary has, as heretofore, solicited replies from the town and city clerks and from the health officers of the several towns and cities or other municipal officers, in answer to questions proposed in circulars sent for that purpose.

It is designed and hoped that a connected history may thereby be secured of all sanitary improvements of a public character in all parts of the State, from year to year, and the gradual awakening of the citizens of the different towns to the necessity of sanitary public

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\* Also includes extracts from other city and town officers in some cases.



measures thereby be shown; also, whatever intelligent appreciation of such necessity, and whatever public spirit may be in existence in the towns may be manifested by the readiness with which needed sanitary measures are adopted.

The following is the form of circular sent to the town or city clerks at the close of the year 1906:

### CIRCULAR NO. 130.

OFFICE OF SECRETARY OF STATE BOARD OF HEALTH,

PROVIDENCE, R. I., Jan. 1, 1907.

*To the Town Clerk:*

It is, by statute law, made the duty of the secretary of the State Board of Health to make inquiries of town or city clerks, or of the clerks of local boards of health, in regard to the general health and sanitary condition of the towns, and also in regard to measures taken for the improvement of the same, as may be seen by the following section from the

#### PUBLIC STATUTES, CHAPTER 83.

SEC. 6. The secretary of the said board shall make inquiry, from time to time, of the clerks of town and local boards of health, and practicing physicians, in relation to the prevalence of any disease, or knowledge of any known or generally believed source of disease, or causes of general ill-health, and also in relation to the proceedings of the said boards of health in respect to acts for the promotion and protection of the public health, and also in relation to diseases among domestic animals, in their several towns and localities, respectively; and the said clerks of town and local boards of health and said practicing physicians shall give such information in reply to said inquiries, of such facts and circumstances as have come to their knowledge.

*In order to make complete the annual report of this board to the General Assembly the secretary would respectfully ask your co-operation by answers to the following questions:*

1. Has any work for the promotion of public health been contemplated or completed in your town by the town authorities, or by private enterprise, during the year? If any, please state what.

2. If by introduction or extension of water service for general use, please

state what proportion of the population, by estimation, was supplied with the same at the end of the year.\*

3. If city or town has sewerage system, state the aggregate length of sewers, by estimation or otherwise, and about what proportion of the population has drainage connected with them at the end of the year.\*

4. If by new ordinances in abatement of nuisances, or for any sanitary purpose, please send copy of same; also state how far, to your best knowledge, all the sanitary ordinances have been enforced. Copies of town ordinances especially desired.

5. Has your town any legal board of health beside the town council? If so, please give the names of the officers of the same.

6. Please give the names of the health officers of your town.

7. Has gratuitous vaccination been provided in your town during the past year? What proportion of the population was vaccinated, according to your best knowledge?

8. Have undertakers promptly sent in their returns of death? Please give names of any who do not. (See Public Statutes, Chap. 85, Sec. 1.)

9. Do clergymen make returns of marriages promptly each month, as required by Public Statutes, Chap. 85, Sec. 4?

Thanking you in advance for your assistance, I am,

Yours truly,

GARDNER T. SWARTS,

*Secretary.*

N. B.—The town or other clerk should charge a remunerative fee for replying to the above circular, and present to the town council or board of health, it being a service required by law.

The following is the form of circular sent to the health officers at the end of the year 1906:

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\*If not known by the person replying, please state where or of whom such information may be obtained.



## CIRCULAR No. 131.

OFFICE OF THE SECRETARY OF THE STATE BOARD OF HEALTH

PROVIDENCE, January 1, 1907.

*To the Health Officer:*

DEAR SIR:—An important feature of the annual reports of the Rhode Island State Board of Health is that of giving a connected history of the occurrence of contagious and epidemic diseases from year to year, as they may have prevailed in the different towns, whether epidemically or in less degree, together with the location in the town (village of otherwise) and season of the year.

If the proportion of the fatal cases to the whole number of cases of the same disease could be given, the value of such reports would be very much enhanced. Such proportion can be ascertained only in such towns as *by town ordinance* require physicians to report all cases of such diseases as come within their charge.

An approximate proportion can, however, be given, after the subsidence of the disease, by inquiry of persons living in the immediate neighborhood of the prevalence of such disease, as to the number of the sick, or by house to house visitation where the sickness occurred, with the same inquiry, and by the comparison of the deaths with recoveries as so ascertained.

It is for the purpose of obtaining such information, in full or approximate, and also what may have been done to prevent and restrict diseases, that the questions in the inclosed circular (No. 132) are sent to the various health officers of the State.

To Health Officers who are not physicians, it may be said that the term epidemic, within the meaning of the questions proposed, is the prevalence of some disease to the extent of one or more persons affected with the disease to every five or six persons living in adjacent tenements or in the near neighborhood, or a smaller proportion, not less than one case of the disease in every ten or twelve of the population, extending over a large area of territory. One sick in every twelve to sixteen persons might be called a large prevalence, and one sick in every twenty to twenty-five, a moderate prevalence. The number of cases of any one disease may have to be estimated, but make them as nearly correct as possible.

If, therefore, you will have the kindness to reply to the questions in the said circular, according to the best knowledge you have been able to obtain, and forward in the enclosed stamped envelope, you will favor one of the most important interests in the State, and greatly oblige,

Yours truly,

GARDNER T. SWARTS,

*Secretary State Board of Health.*

## CIRCULAR No. 132.

DEAR SIR:—Replies to the following questions, as suggested in the accompanying circular (No. 131) are respectfully solicited; said replies to be made on this circular, following each question:

1. Name of town.

2. Name of health officer.

3. Have there been, within your knowledge, any epidemics, or, any large prevalence of contagious or infectious diseases, in your town during the past year? If so, of what disease or diseases? in what locality or localities? how many of each disease?\* number of deaths? and in what months of the year?

Diseases.	Locality.	No. of cases.	No. of deaths.	Months in which they occurred.

4. Was isolation maintained or attempted?\*

5. What proportion of the sick, if any, were isolated?

6. Was any inspection of premises made, where sickness prevailed, as to the sanitary condition of the cellars, pantries, sinks, sink-drains, water-closets, if any, cesspools, out-house privies, distance of wells from accumulations of filth, etc., etc.? If so, please give a general statement as to whether they were sanitarily in conditions good or bad, or, if anything on place was unusually unsanitary, give a full description. Or, if the cause of any outbreak of disease was found, please state what.

7. Did you make any sanitary inspections during the past year, by order of the town council or from your own option? If so, what were they and how made?

8. Did you know of any location in your town that seems to be particularly unhealthy to any considerable number of persons? If so, and the cause is suspected, can such cause be removed at any reasonable expense?

9. Do you report to your town council nuisances dangerous to the public

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\*According to the best knowledge obtainable

health, or unsanitary premises within your knowledge; or of buildings unsafe for occupants in case of fire? (See Chapter 495, Section 6, Public Laws.)

10. Has there, to your knowledge, been any contamination of any of the water, milk, or ice supplies in your town?

11. Please give names and addresses of dealers in ice in your town.

In the following reports of the various town or city clerks and health officers, the replies are generally given only to those questions where there appeared to have been some changes made or some action taken on sanitary matters in the towns during the year, or in cases where failure to observe present laws have been noted.

In the case of question No. 7 of Circular No. 130, the reply is only given in those cases where gratuitous vaccination was provided.

The references given under No. 4 of the reports from the town clerks are to previous reports of this Board.

## BRISTOL COUNTY.

### BARRINGTON.

#### REPORT OF FREDERICK P. CURICH, TOWN CLERK.

4. (Contagious disease ordinances, report of 1897, p. 10.)
6. Samuel F. Bowden is the health officer.
7. Gratuitous vaccination for the public school children was provided during the year. Nearly all the school children availed themselves of the same.

#### REPORT OF SAMUEL F. BOWDEN, HEALTH OFFICER.

3. The only cases of contagious disease reported were two cases of scarlet fever, one of which was fatal, during the month of July.
4. Isolation was maintained.
5. All of the sick were isolated.
6. Inspections of premises where sickness prevailed were made and sanitary conditions found good.
7. Inspections of five privy vaults were made during the year, one of the same being filled and conditions improved in the other four.

9. All public nuisances, unsanitary premises, etc., are reported to the town council.

#### BRISTOL.

No reply from the town clerk.

No reply from the health officer.

#### WARREN.

##### REPORT OF CHARLES B. MASON, TOWN CLERK.

3. The aggregate length of sewers in this town and the number of people connected therewith is practically the same as during the previous year.

4. (Health ordinance, report of 1899, p. 13.)

6. George L. Drown is the health officer.

7. Gratuitous vaccination was provided during the year.

##### REPORT OF GEORGE L. DROWN, HEALTH OFFICER.

3. The contagious diseases reported during the year were twenty-nine cases of diphtheria with five deaths from the same.

4. In all cases houses were placarded and in my opinion isolation was maintained generally.

6. Inspections of premises where sickness prevailed were made in cases where there was suspicion of unsanitary conditions. Few cases were found attributable to such conditions, however.

7. Several sanitary inspections of sewers, drains, cess-pools and privies were made during the year.

9. All public nuisances, unsanitary premises, etc., when any such are brought to my attention, are reported to the town council.

#### KENT COUNTY.

#### COVENTRY.

##### REPORT OF GEORGE B. PARKER, TOWN CLERK.

6. Fred W. Bean, M. D., is the health officer.

## REPORT OF FRED W. BEAN, M. D., HEALTH OFFICER.

3. The contagious diseases reported during the year were ten of diphtheria and seven of scarlet fever. There was one death from each cause.

4. Isolation was maintained.

5. About two-thirds of the sick were isolated. It was impossible to isolate all.

6. Inspections of premises where sickness prevailed were made.

7. Several sanitary inspections were made during the year.

9. All public nuisances, unsanitary premises, etc., are reported to the town council.

## EAST GREENWICH.

No reply from the town clerk. (Health ordinances, reports of 1894, p. 27; and 1900, p. 15.)

## REPORT OF ELBRIDGE G. CARPENTER, M. D., HEALTH OFFICER.

3. The contagious diseases reported were ten of diphtheria with one death, and three of typhoid.

4. Isolation was maintained.

5. All of the sick were isolated.

6. Inspections of premises where sickness prevailed were made and some unsanitary conditions found, but nothing very unusual.

7. Several sanitary inspections of private premises were made at my own option during the year.

9. All public nuisances, unsanitary premises, etc., are reported to the town council.

## WEST GREENWICH.

## REPORT OF THEODORE B. WHITE, TOWN CLERK.

6. This town has no health officer.

## WARWICK.

No reply from the town clerk.

(Contagious disease ordinances, report of 1893, p. 45.)

No report from the health officer.

## NEWPORT COUNTY.

## JAMESTOWN.

## REPORT OF WILLIAM F. CASWELL, TOWN CLERK.

2. About two-thirds of the population of this town is supplied by the public water service.

3. The aggregate length of sewers in this town is five miles, and about two-thirds of the population are connected therewith.

4. No new sanitary ordinances, except a vote of the town council requiring all physicians to report all contagious diseases to the town clerk or town council, were enacted during the year. The present sanitary ordinances have been well enforced.

6. Dr. E. C. Bullard is the health officer.

7. Gratuitous vaccination for school children was provided during the year. Only four of these were so vaccinated.

No report from the health officer.

## LITTLE COMPTON.

## REPORT OF JOHN B. TAYLOR, TOWN CLERK.

4. (Contagious disease ordinance, report of 1905, p. 20.)

This town at present without a health officer. John G. Hathaway, M. D., has been the health officer until now.

## MIDDLETOWN.

## REPORT OF ALBERT L. CHASE, TOWN CLERK.

2. There was no substantial increase in the number of water takers during the year. Some few people are supplied from the mains of the Newport Water Works.

4. (Contagious disease ordinances, report of 1893, p. 48.)

6. George E. Ward was health officer up to the time of his death, in December, 1906. He was succeeded by Isaac T. Smith.

8. There has been some delay on the part of undertakers in returning deaths. In some cases it was the fault of the physician.

9. Clergymen do not always make returns of marriages promptly.

No report from the health officer.

## NEWPORT.

### REPORT OF DAVID STEVENS, CITY CLERK.

2. About eighty per cent. of the population of this city is supplied by the public water service.

3. The aggregate length of sewers in this city is forty-one and one-half miles and about forty-eight per cent. of the population is connected therewith.

4. No new sanitary ordinances, except one regarding the filling of privy vaults, were enacted during the year. The existing ones have been well enforced.

5. The board of health of this city is constituted as follows: Rufus E. Darrah, M. D., president; George D. Ramsay, M. D., secretary; Philip E. Clark, M. D., Robert Frame, Charles E. Lawton. Joseph W. Sampson is the executive officer; George C. Shaw, inspector of nuisances; and Cornelius C. Moore, clerk.

### REPORT OF J. W. SAMPSON, HEALTH OFFICER.

3. Scarlet fever was prevalent during the first half of the year, there being two hundred sixty-four cases of this disease, with one death.

4. Most of the above cases were taken to the City Hospital; the rest were isolated.

6. Inspections of premises where sickness prevailed were made.

7. All sanitary inspections are made by the inspector of nuisances.

9. All public nuisances, unsanitary premises, etc., are reported to the board of health.

THE FOLLOWING IS EXTRACTED FROM THE REPORT OF THE BOARD OF HEALTH, RUFUS E. DARRAH, M. D., PRESIDENT, FOR THE YEAR 1906:—

### DEATHS.

The total number of deaths was three hundred and thirteen (313), the smallest number since 1887, when there were three hundred and one (301.)



The average age was 45 years, 3 months, 8 days. One decedent living to the ripe old age of 100 years and 3 months. The number of deaths under one year was forty-three (43.)

#### CONTAGIOUS DISEASES.

There have been reported two hundred and eighty-eight (288) cases of scarlet fever, with only one death; thirty-three (33) cases of diphtheria, with five (5) deaths. Of these, three (3) of the cases were not recognized in their early stage. There have been thirty-five (35) cases of typhoid fever, two (2) of which were imported, with three (3) deaths; twenty-four (24) cases of pulmonary tuberculosis have been reported, with twenty-four (24) deaths. Many of these cases were not known in the office until the return of death was filed. Evidently there is want of co-operation on the part of some of the physicians in the effort made by this Board to prevent the spread of this disease. There were (2) cases of cerebro-spinal meningitis, both of which were fatal. Two hundred and thirty-three (233) cases of measles were reported, with one death.

#### SCARLET FEVER.

The continuance of scarlet fever has been due to the mildness of the attack. Many of the cases were not ill enough to have a physician and were not recognized until the desquamative stage, thus allowing the disease to spread. As soon as the cases were reported it has been recommended that the patients be sent to the Emergency Hospital, in order that all might be under one roof; thus lessening the points for centres of contagion. All houses were fumigated from which these cases were taken.

#### BACTERIOLOGICAL WORK.

The work in this department has been continued throughout the year by Dr. Robert W. Kerr, who has rendered valuable service which has been very satisfactory to this Board. He has made eighty-seven (87) examinations of sputa for tubercle bacilli, of which twenty-four (24) proved positive and sixty-three (63) negative. Two hundred (200) diphtheria cultures were examined; of this number fifty-six (56) were diagnostic cultures, thirty (30) cautionary cultures, and one hundred and fourteen (114) discharge cultures. Of the diagnostic cultures, nineteen (19) proved positive and thirty-seven (37) negative. Of the cautionary cultures twenty-nine (29) proved negative and one (1) positive. Of the discharge cultures sixty-six (66) proved negative and forty-eight (48) positive.

One hundred and sixty-five (165) examinations were made for the discharge of scarlet fever cases.



He has also served on the staff of Medical Inspectors of Schools, and also examined all children sent home with suspected contagious diseases, as well as examining all cases of diphtheria and scarlet fever before they are released from quarantine.

#### CONTAGIOUS HOSPITAL.

On the 8th of January, this year, the house on the corner of Broadway and Ledyard Place was leased for one year for the care of scarlet fever and diphtheria cases. On account of the large number of cases to be cared for, the hospital on Maple Avenue, which was not large enough to accommodate all that asked for admission, it became necessary that additional quarters be provided for the care of these patients.

On the 12th of March, with the diminution in number, all patients were transferred to the Broadway Hospital and the Maple Avenue Hospital closed. This was done as the Broadway Hospital was more easy of access.

The advisability of this has been shown by the large number of cases cared for during the remainder of the year.

The total number of cases of all diseases cared for during the year has been one hundred and ninety-one (191); of this number one hundred and sixty-one (161) were scarlet fever, twenty-seven (27) diphtheria, two (2) measles, and one (1) pulmonary tuberculosis. These cases represent six thousand nine hundred and sixty-four (6,964) days' treatment, divided as follows:—Scarlet fever, five thousand nine hundred and eighty-five (5,985) days; diphtheria, five hundred and ninety-three (593) days; pulmonary tuberculosis, three hundred and seventy-one (371) days, and measles, fifteen (15) days.

The total cost has been seven thousand three hundred and eighty-one dollars and forty-eight cents (\$7,381.48), which gives an average cost of seven dollars and eighty-five (\$7.85) per patient per week. The carriage hire for the transportation of the patients from their homes to the hospital was four hundred and thirty-two dollars and fifty cents (\$432.50.) Deducting this amount, the cost per patient per week at the hospital was seven dollars and forty-one cents (\$7.41.)

The necessity for maintaining this hospital from a monetary point of view is shown by the fact that if it had not been provided the cost to the city would have been seventeen dollars and fifty cents (\$17.50) per week for each patient, or seventeen thousand four hundred and ten dollars (\$17,410.00) for the year; a saving to the city of nine thousand five hundred and ninety-six dollars and two cents (\$9,596.02.)

Dr. George D. Ramsay has visited the hospital daily without compensation, and to his untiring energy the success of the hospital is due.

The hospital has been in direct charge of Miss Annie P. Lee, a graduate of the Rhode Island Hospital, who has rendered valuable service.

It is recommended that the Honorable Council provide some suitable place for a permanent hospital for the care of these cases, together with a ward for the care of chronic pulmonary tuberculosis patients.

#### SCHOOL INSPECTION.

On the first day of January, Drs. Henry V. Carroll, D. P. A. Jacoby, and John H. Sweet, Jr., were appointed Medical Inspectors of Schools at a salary of two dollars (\$2.00) per school day. They have been assisted in this work by Dr. Robert W. Kerr.

The absolute need of continuing this work, which was commenced late last year by this Board, has been shown by the number of cases of contagious diseases detected; also other cases which required medical attention, which were referred to the parents in order that they might receive medical attention from their family physician. All pupils have been examined on their return to school after vacation, and when absent from any cause.

The total number of examinations made was thirty-six thousand nine hundred and ninety-five (36,995.) Of this number three hundred and sixty-seven (367) were found suffering from some contagious disease. This work has been aided greatly by the services rendered by the teachers.

Provision for the continuance of this work should be made in the annual budget, as it has become an established necessity. In fact nearly all cities and large towns have adopted this system, as one of the means of gaining control of contagious diseases.

#### SWILL.

The contract for the collection of swill expired Aug. 8th, 1906, and on authority of your Honorable Body bids for a new contract were advertised for by this Board. The lowest bidder was Mr. James J. Dugan, who was awarded the contract for five years.

The former contractors, Messrs. Barney & Willetts, after completing five years' service, retired with the best wishes of the Board.

The work is progressing satisfactorily now.

In the matter of the disposal of swill the Board is still of the same opinion, that cremation is the only sanitary method to be used, and strongly recommends the erection of a crematory.

## MILK.

The milk ordinance remains unchanged and this Board has not the power to carry out the law, as it is still inadequate for the enforcement of the same.

## SEWERAGE.

Attention is called to the necessity of changing the location of the sewer outlet near the head of Long Wharf, and the immediate dredging of that part of the harbor about the Newport Yacht Club and east of the City Wharf.

Attention is again called to the necessity for a sewerage system for Gibbs avenue and Almy Pond district. Many complaints are received from the inhabitants of these localities.

## NIGHT SOIL.

The disposal of night soil is the same as heretofore at the City night soil house on Briggs Wharf. This method of disposal has given entire satisfaction.

## AMBULANCE.

The necessity for an ambulance is shown by the work which has been done by carriage during the past year, and it is again recommended that one be purchased.

## NEW SHOREHAM.

## REPORT OF EDWARD P. CHAMPLIN, TOWN CLERK.

4. (Nuisance ordinance, report of 1893, p. 50.)

6. Thaddeus A. Ball is the health officer.

No report from the health officer.

## PORTSMOUTH.

No reply from the town clerk.

(Dumping ordinance, report of 1899, p. 21.)

## REPORT OF MINOT A. STEELE, M. D., HEALTH OFFICER.

6. The only inspections of premises where sickness prevailed were upon complaint.

7. No sanitary inspections were made during the year.
9. All public nuisances, unsanitary premises, etc., when any such exist, are reported to the town council.

### TIVERTON.

#### REPORT OF A. LINCOLN HAMBLY, TOWN CLERK.

4. (Contagious disease ordinances, report of 1900, p. 19.)
6. Dr. Charles H. Bryant is the health officer.

#### REPORT OF CHARLES H. BRYANT, M. D., HEALTH OFFICER.

3. There was an outbreak of measles in the village of North Tiverton during the month of December, there being sixty-four cases of this disease with two deaths.
4. Isolation was maintained.
5. All of the sick were isolated.
6. Inspections of premises where sickness prevailed were made, and sanitary conditions were found generally fair.
7. Several sanitary inspections of drainage from cess-pools were made during the year and in all cases conditions were corrected.
9. All public nuisances, unsanitary premises, etc., are reported to the town council.

### PROVIDENCE COUNTY.

#### BURRILLVILLE.

- No reply from the town clerk. (Contagious disease ordinances, report of 1897, p. 20.)
- No report from the health officer.

#### CENTRAL FALLS.

#### REPORT OF C. FRED CRAWFORD, CITY CLERK.

3. The aggregate length of sewers in this city is twelve and sixty-three hundredths miles and between sixty-five and seventy-five per cent. of the population is connected therewith.

5. This city has no legal board of health other than the board of aldermen.
6. Adolph R. V. Fenwick, M. D., is the health officer.
9. Most of the clergymen make returns of marriages promptly.

REPORT OF ADOLPH R. V. FENWICK, M. D., HEALTH OFFICER.

6. A few inspections of premises where sickness prevailed were made.
9. All public nuisances, unsanitary premises, etc., are reported to the city council.

THE FOLLOWING IS EXTRACTED FROM THE REPORT OF CITY ENGINEER CHARLES M. FRANKLIN, FOR THE FISCAL YEAR ENDING NOVEMBER 30, 1906:—

The Filtration Plant is located on the swamp land and hill near Crow Point, purchased of Elizabeth Higginson Weeden. The situation is well adapted to the purposes of sewage disposal. There is a large supply of sand, sufficient room for expansion and all isolated remotely enough to prevent any nuisance arising from objectionable odors. The plant consists of two concrete tanks, each of 70,000 gallons capacity, and two acres of filtering surface. The tanks receive and hold the sewage and are alternately discharged on the beds, which are 16 in number. The object of this treatment is to so purify the sewage that the stream flowing from the city's land, which is a combination of ground water from the swamp and effluent from the beds, cannot be considered a factor in the pollution of any of the streams with which it joins in reaching tide water. The change is largely due to bacteria present in the sewage and has started even before it arrives at the tank. The initial stage is simply putrefaction of that matter which with water makes up the volume of sewage. While the tank is filling, this action still continues and the suspended matter settles to the bottom; when full the contents are allowed to settle until such time as it is necessary to empty in order to make ready for another filling. The amount of sewage received daily and the area of the filters allow a discharge of 50,000 gallons to each acre, although 100,000 gallons to the acre is considered the maximum. In discharging, the upper part of the sewage is let on to the beds first and the lower part, which contains the sludge or settled suspended matter, is let on to sludge beds. This is done for economy, as the sewage in passing through the bed deposits the suspended matter on the top layer of sand; here it accumulates and after drying must be scraped together and removed. In the winter two difficulties, due to frost in the beds, interfere with the successful operations described; one that the sewage does not readily pass from the surface; second, the sludge freezes while moist and instead of drying, effectually seals the bed, making it useless as a filter. To overcome the first difficulty, the beds are plowed and furrowed much like a corn field and in such

a manner that when a bed is dosed in freezing weather the ice will form and bridge over between the furrows; the air space thus formed helps to keep the depth of frost at a minimum. To overcome the second difficulty, it is necessary to keep the sludge from the beds. This may be done by screening, but the necessary apparatus and labor involved leads in our case to the alternative of using one of the tanks as a septic tank for at least one portion of the year. In fact, this process worked so well that it has been followed almost continually all the year round for the past six years. For the purpose of a septic tank the west settling tank was fitted with an overflow pipe at the opposite end from that at which the sewage enters. The total flow of dry weather sewage passes through this tank, and as the settling action is taking place continuously, that which overflows is free of a large part of the sludge. The amount is shown by one of the following tables compiled from the daily records of the plant. Early in May of this year it was noticed that solid matter was passing through the overflow pipe, and as the contents of the tank represented a two years' accumulation it was thought wise to abandon the septic treatment for the time being; at least it must be cleaned out. This was done during the last days of the month, and from that time until the first day of October intermittent filtration process has been followed; that is, the fresh sewage is applied to the beds daily, after the settling process before described. The septic tank not only retains a part of the suspended solids, but also completely dissolves a portion of that retained. In either case the final and most efficient action takes place in the beds, where micro-organisms that live and work under exactly opposite conditions than those that have to do with the initial change in the raw sewage attack and transform this dark-colored, odorous liquid to one that from appearance has no connection with it. Although this is far from being a water suitable for domestic use, still in its course down stream it will not give rise to foul odors nor be itself a source of pollution. The two tables following show a comparison of results obtained with the septic tank and with daily settled sewage.

#### SEPTIC SEWAGE.

Tank started June 17, 1904. Tank stopped May 28, 1906.

45,000,000 gallons sewage treated.

60 cubic yards sludge removed by grit well during septic period.

60 cubic yards sludge removed from beds during septic period.

100 cubic yards sludge removed from beds as a result of cleaning out septic tank.

1.33 cubic yards sludge per 1,000,000 gallons sewage removed by grit well.

1.33 cubic yards sludge per 1,000,000 gallons sewage passed through tank.



2.22 cubic yards sludge per 1,000,000 gallons sewage retained by tank.

3.55 cubic yards sludge per 1,000,000 gallons sewage treated.

#### SETTLED SEWAGE.

May 28, 1906, to October 1, 1906.

9,750,000 gallons sewage treated.

12 cubic yards sludge removed by grit well.

72.50 cubic yards sludge removed from beds.

1.23 cubic yards sludge per 1,000,000 gallons sewage removed by grit well.

7.44 cubic yards sludge per 1,000,000 gallons sewage treated.

The sludge removed is the amount of dry material scraped from the beds; no tests for per cent. of moisture were made. Apparently over 50 per cent. of the sludge received with the sewage for treatment was dissolved in passing through the septic tank. This shows the efficiency of the septic treatment, and with a tank having a depth of eight feet no doubt much better results could be obtained.

The sludge discharged at the time of cleaning the septic tank was disposed of at a cost of between 30 and 50 cents per cubic yard, while the sludge which accumulated between May 28th and October 1st required the services of an extra man part of the time and cost over one dollar per cubic yard to remove. Monthly analyses are made at the laboratory of the State Board of Health as in the past, although the mode of collecting them has been changed; until June of this year the custom was to fill the bottles at any time most convenient. This method showed a wide range of results. So to obviate this trouble, a composite sample was taken by collecting a quart every hour throughout the day, and for the last two months the composite sample represented a twenty-four hour flow; this also gave an opportunity to record the rate of flow during the night. We are indebted to Dr. Swarts and Mr. Pratt of the State Board of Health for suggestions in connection with the sewage disposal, and acknowledgment is here made of courtesies extended. The maximum flow of sewage is about 5,000 gallons per hour and varies between this and 3,000 per hour during the day. Soon after 8 o'clock P. M. the amount of flow slowly decreases until between 3 and 4 o'clock A. M., when it stands at 650 gallons per hour. Between 5 and 8 o'clock A. M. it rapidly increases to the normal hourly flow, between 3,000 and 5,000 gallons per hour.

The method of keeping the daily and monthly records of the Filtration Plant has been somewhat changed, making them more valuable for reference. A recording thermometer has been in operation since 1898, and on the first of October of this year a standard rain gauge was established. The following table is compiled from the records of the Filtration Plant:

## FILTRATION PLANT DATA.

MONTH.	SEWAGE IN GALLONS.		Average Temperature Air.	Water Consumed, Gallons.	Precipitation, Inches.
	Total.	Average Daily.			
December, 1905.....	2,070,090	66,713	29 degrees	374	.....
January, 1906.....	2,013,990	64,967	29 "	561	.....
February, 1906.....	1,856,910	66,318	28 "	2,431	.....
March, 1906.....	1,761,540	56,824	36 "	3,553	.....
April, 1906.....	2,042,040	68,068	49 "	3,927	.....
May.....	2,215,950	71,482	60 "	17,578	.....
June.....	2,119,240	70,641	68 "	25,619	.....
July, 1906.....	2,349,580	75,793	73 "	25,619	.....
August, 1906.....	2,595,812	83,736	76 "	32,800	.....
September, 1906.....	2,471,556	82,385	68 "	21,100	.....
October, 1906.....	2,317,653	74,653	56 "	11,950	*4.68
November, 1906.....	2,161,925	72,064	45 "	13,284	3.70
Year 1906.....	25,976,286	71,137	.....	158,796	.....
Year 1905.....	23,123,400	.....	.....	.....	.....
Year 1904.....	19,108,000	.....	.....	.....	.....

\*Rain gauge established October, 1906.

The highest thermometer reading for the year was 95°. This was recorded five times, as follows: May 19, July 19, August 5 and 6, and September 19; the lowest reading was 1° below zero on February 3.

The following reports of analyses show the purification effected by settling tanks, septic tank and sand filters:



## MOSHASSUCK RIVER DRAINAGE DISTRICT, CENTRAL FALLS, R. I.

## ANALYSES OF SEWAGE, EFFLUENT AND DITCH.

(Parts per 100,000.)

DATE.	RESIDUE ON EVAPORATION.			AMMONIA.				NITROGEN AS		Oxygen Consumed.	Remarks.	
	Total.	In Solution.	In Suspension.	Free.	Albuminoid.		Chlorine.	Nitrates.	Nitrites.			
					Total.	In Solution.						In Suspension.
Sewage.												
Average, June to November.....	173.30	124.00	49.30	9.05	2.04	1.05	.99	39.77	.....	17.50	Bacteria per c. c. 11,790,000	
Septic Sewage.												
Average, October and November..	121.50	98.00	23.50	10.62	1.50	1.02	.49	28.80	.....	12.15	22,450,000	
Settled Sewage.												
Average, June to September.....	125.10	107.10	18.00	8.43	1.42	.75	.67	31.00	.....	10.60	7,575,000	
Average, October and November..	123.00	103.50	19.50	11.18	1.44	1.03	.41	32.20	.....	11.20	26,750,000	
Effluent.												
Average, June to November.....	63.38	Loss, 12.58	Fixed, 50.80	2.53	.1400	.0938	.0462	20.72	1.36	.0548	364,925	
Ditch.												
June 26, 1906.....	37.70	7.70	30.00	1.20	.0960	.0540	.0420	9.20	.63	.0340	104,700	

## SCHEDULE.

Population of city (U. S. census, 1900), 18,167.

Population of city (State census, 1905), 19,446.

Area of city (including water), 1.27 square miles.

Total length of water mains, 17.799 miles.

Total length of sewers, 12.631 miles.

## CRANSTON.

## REPORT OF DANIEL D. WATERMAN, TOWN CLERK.

2. (Providence supply.)
4. (Health and contagious disease ordinances, report of 1903, p. 24.)
6. Dr. D. S. Latham is the Superintendent of Health, and John Bigbee is the town sergeant.
7. Gratuitous vaccination was provided during the year. The number availing themselves of the same is not known.

## REPORT OF DANIEL S. LATHAM, M. D., HEALTH OFFICER.

4. Isolation was attempted and in most cases successfully carried out.
5. All of the sick were isolated.
7. By the order of the town council a sanitary inspection of the soap works at Arlington was made; also made several out-house inspections and two piggery inspections at Oaklawn.
9. All public nuisances and unsanitary premises are reported to the town council in those cases where the owners do not see fit to better conditions upon notice from the health officer.

## CUMBERLAND.

## REPORT OF JOHN F. CLARK, TOWN CLERK.

4. (Contagious disease ordinances, report of 1893, p. 53.)
6. James A. Cullen, M. D., is the health officer.
8. Undertakers have not made prompt returns of deaths.
9. For the most part clergymen make prompt returns of marriages.  
There is one clergyman, however, who *will not* make returns.  
No report from the health officer.

## EAST PROVIDENCE.

## REPORT OF WILLIAM E. SMYTH, TOWN CLERK.

4. (Contagious disease and spitting ordinances, reports of 1893, p. 54; and 1904, p. 28.)

6. James H. Williams is the health officer.

7. Gratuitous vaccinations was provided during the year, but the proportion of the population availing itself of the same is difficult to obtain, as the physicians do not send in returns regularly and even allow it to go a year or two before reporting.

9. For the most part, clergymen make returns of marriages promptly, there being only one, to my knowledge, who does not.

## REPORT OF JAMES H. WILLIAMS, HEALTH OFFICER.

4. Isolation was maintained.

5. All cases of contagious diseases were isolated.

6. Inspections of premises where sickness prevailed were made.

9. All public nuisances, unsanitary premises, etc., are reported to the town council when not abated upon notification from the health officer.

## FOSTER.

## REPORT OF GARDNER HOWARD, TOWN CLERK.

6. Dr. Henry Arnold is the health officer.

No report from the health officer.

## GLOCESTER.

## REPORT OF FRANK F. DAVIS, TOWN CLERK.

4. No new sanitary ordinances were enacted during the year. The existing ones have been well enforced.

6. George A. Harris, M. D., is the health officer.

## REPORT OF GEORGE A. HARRIS, M. D., HEALTH OFFICER.

3. The contagious diseases reported during the year were twenty-eight cases of diphtheria, two of which were fatal, in the village of Chepachet.

4. Isolation was maintained.

5. All of the sick were isolated.
6. Inspections of premises where the disease prevailed were not made, as the disease was probably brought from another town.
7. Sanitary inspections were made during the year.
9. All public nuisances, unsanitary premises, etc., are reported to the town council.

### JOHNSTON.

#### REPORT OF STERRY K. LUTHER, TOWN CLERK.

4. (Contagious disease ordinances, report of 1896, p. 20.)
5. The board of health of this town is constituted as follows: Ralph H. Shaw, M. D., Hiram Kimball and William F. W. Worth.
6. Ralph H. Shaw, M. D., is the health officer.
7. Gratuitous vaccination was provided during the year and one and two-fifths per cent. of the population availed itself of the same.

#### REPORT OF RALPH H. SHAW, M. D., HEALTH OFFICER.

3. Scarlet fever was prevalent in the villages of Thornton and Simmonsville during the months of November and December, there being thirteen cases of this disease, with three deaths.
4. Isolation was maintained.
5. All of the sick were isolated.
6. Inspections of premises where the disease prevailed were made and conditions found fairly good. The disease in all probability originated in Providence in the Federal Hill District, most of those affected being Italians.
7. Frequent sanitary inspections were made at my own option and unsanitary conditions abated as far as possible.
9. Public nuisances, unsanitary premises, etc., are not reported to the town council, as the local board of health possesses the power previously vested in said council.

### LINCOLN.

No reply from the town clerk.

(Contagious disease ordinances, report of 1896, p. 25.)

## REPORT OF HARRY A. MANCHESTER, M. D., HEALTH OFFICER.

4. Isolation was maintained.
5. All cases of diphtheria and scarlet fever were isolated.
6. Sanitary inspections of premises where sickness prevailed were made and sanitary conditions found fair, with the exception of an occasional case where the contents of the cesspools were emptied onto the lawns.
7. Sanitary inspections, mostly of nuisances such as overflowing cesspools, etc., were made during the year.
8. That part of the village of Lonsdale, known as Prospect Hill, has had quite a number of cases of diphtheria during the year. The cause of the same, however, could not be determined.
9. All public nuisances are reported to the town council.

## NORTH PROVIDENCE.

## REPORT OF THOMAS H. ANGELL, TOWN CLERK.

2. During the year water mains were laid on Smith street, River avenue, and some cross streets, but the number supplied by these is not known.
6. John Graham is the health officer.
7. It is unknown whether or not gratuitous vaccination was provided during the year.

## REPORT OF JOHN GRAHAM, HEALTH OFFICER.

4. Isolation was maintained.
5. All of the sick were isolated.
6. No particular inspection of premises where sickness prevailed was made as everything was in pretty good condition.
9. All public nuisances, unsanitary premises, etc., are reported to the town council if occasion requires.

## NORTH SMITHFIELD.

No reply from the town clerk.

(Contagious disease ordinances, report of 1893, p. 64.)

## REPORT OF JOSHUA WARDLE, HEALTH OFFICER.

3. The cases of contagious diseases reported during the year were three of scarlet fever in the village of Waterford during the month of December. None of these were fatal.

4. Isolation was maintained.

## PAWTUCKET.

## REPORT OF JOHN W. ROWE, CITY CLERK.

2. Practically the entire population of this city is supplied by the public water service.

3. The aggregate length of sewers in this city is fifty-one and eighty-seven hundredths miles and fully one-half of the population is connected therewith.

5. The board of aldermen constitute the board of health of this city.

6. Byron U. Richards is the city physician.

7. Gratuitous vaccination was provided during the year.

8. Undertakers have made fairly prompt returns of deaths.

9. Clergymen are fairly prompt in making returns of marriages.

## REPORT OF BYRON U. RICHARDS, M. D., HEALTH OFFICER.

4. Isolation was maintained in cases of contagious diseases.

5. All of the sick were isolated.

6. Inspections of premises where sickness prevailed were made, and usually some unsanitary condition noted and its abatement recommended.

7. No sanitary inspection was ordered during the year by the board of aldermen.

9. All public nuisances, unsanitary premises, etc., are reported to the city council.

EXTRACTS FROM REPORT OF COMMISSIONER OF PUBLIC WORKS, W. H. BARCLAY, FOR THE YEAR ENDING SEPT. 30, 1906:

## WATER COLLECTED AT HAPPY HOLLOW POND.

Showing the value of the Abbotts Run water shed from Oct. 1st, 1905 to Oct. 1st, 1906.

	Gallons.
Total amount of water flowing over the dam.....	1,464,952,656
Total amount of water used for water power.....	7,086,882,495
Total amount of water used for other purposes.....	2,571,597,681
<hr/>	
Total amount of water collected at Happy Hollow.....	11,123,432,832
Amount of water less in Diamond Hill reservoir, October 1st, 1906, than on October 1st, 1905.....	119,680,000
<hr/>	
Total collected in water shed.....	11,003,752,828
Average daily yield of water shed.....	30,018,379
Area of water shed in square miles.....	27.7
Rainfall in inches at No. 3 Station for the year.....	48.72
Rainfall in inches at Diamond Hill for the year.....	45.65
Rainfall in inches, average.....	47.18
Rainfall in gallons in water shed for the year.....	22,744,623,098
Per cent. of rainfall collected in water shed.....	48.38

## SEWER DEPARTMENT.

I would again renew my recommendation, made in the report of last year, that some action be taken toward an agreement with the city of Providence to take care of the sewage flow of the Moshassuck district.

I would also point out the necessity of extending the sewer system in the "Darlington" district.

For more particular description of work performed I refer you to the appended report of the city engineer.

Extracts from report of City Engineer, Geo. A. Carpenter:

Our supply is a surface water supply and constant oversight of the water-shed must be maintained by the Department of Public Works; all possible sources of contamination must be known and immediate steps taken to prevent the pollution of the streams and brooks of this territory, should any such pollution threaten.

As the inhabitants of this water-shed become more numerous, the question of the filtration of the water will become more pressing, for only by means of filtration can the absolute purity of any surface water supply be assured.

Improvements of land and developments of enterprises within the boundaries of the water-shed bring new sources of contamination. This has been evidenced within the last five years by the increased amount of suspended matter present in the water after every storm, caused by the construction of a high embankment across the valley to carry a new line of railway.



The subject of the total flow of the Abbott Run, and especially the flow in dry years, is a very important one to this city. This stream is our only source of water supply, its water-shed is not large, and the quantity of water that can be depended upon, in times of drought, is of vital interest. For many years this department has been desirous of making measurements of the total flow of the stream but has not had any suitable appurtenances or conditions for such work. The rebuilding of the dam at Cumberland Mills furnished the opportunity and suitable appurtenances were constructed, so that we now have a measuring station at this place which will furnish this department with very valuable data.

It should, however, be borne in mind that such data can be only of greatest value when collected over a period of years.

In connection with the work of measuring the stream flow it will be necessary to construct a device at Diamond Hill to measure the quantity of water drawn from the reservoir during the dry season so that this amount may be separated from the total stream flow as measured at Cumberland Mills.

Plans for this work have already been made and it will be undertaken in the spring.

Samples of the water supplied to the city from the Abbott Run stream are taken every month at two places, from taps at Pumping Station No. 3, and at the Masonic building. These samples are analyzed by the State Board of Health and a record of this analysis is filed in this department.

In the last report, that for 1905, quite extended reference was made to the extension of the sewer system to parts of the city not now provided with sewers, the location of the sewage filter field was alluded to and suggestion was made that the sewage of this section might be taken to Providence. The above might well be again written in the report for this year except that it seems an almost useless repetition. That report is in print and filed with the records of the city and the present reference to the continued existence of these same conditions would seem to be sufficient.

#### FILTER FIELDS.

At the filter fields, where the sewage of the Moshassuck River district is cared for, the screen tanks were in use from November 3, 1905 to May 11, 1906, and 54,126,829 gallons were passed through the screens. The total amount of sludge removed in this way was 372 cubic yards, or an average amount of 6.86 cubic yards per million gallons of sewage. Analyses made by the State Board of Health during the year show that the average amount of suspended matter separated by the screens has been 643 pounds of dry solids per million gallons of sewage. This amount has varied from a minimum of 246 pounds per million gallons to a maximum of 1,380 pounds per million.

The variation of the amount of suspended solids separated at different times has been caused by the increased quantity of sewage delivered at and after a storm. This produces a dilution of the dry-weather-flow and an increased rate of passage through the screens, both of which elements reduce the amount of solids retained per million gallons. When the flow has been normal the average amount of suspended solids removed has been 1,060 pounds per million gallons.

The wet sludge is pumped from the screen chamber into carts and removed to a field, where it is dumped into trenches prepared to receive it. By the removal of a large quantity of suspended matter, from the sewage as soon as it reaches the plant, the necessity of operating sludge beds during the winter season is avoided; these beds can be used for settled sewage, one only being reserved for the treatment of such finely suspended matter as may be removed by sedimentation in the collecting tanks.

The State Board of Health is also actively interested in the work of sewage purification carried on by the city and has always co-operated with and assisted the city in every way possible.

Table Showing the Number of Gallons of Sewage Received and Treated from October 1, 1905, to October 1, 1906.

MONTH.	Gallons of Sewage.	Average Gallons Per Day.
October, 1905.....	5,572,520	179,749
November, 1905.....	5,205,350	173,512
December, 1905.....	6,601,500	193,597
January, 1906.....	13,291,360	428,753
February, 1906.....	6,862,906	245,103
March, 1906.....	9,918,100	319,939
April, 1906.....	9,490,600	316,353
May, 1906.....	6,477,720	208,959
June, 1906.....	6,274,560	209,152
July, 1906.....	6,496,660	209,570
August, 1906.....	6,348,208	204,783
September, 1906.....	7,047,095	234,903
Total.....	88,986,573	.....

Average number of gallons per day for the year has been 243,799.

Number of bed.	Area in acres.	Number of doses of ordi- nary sewage.	Average quantity of ordi- nary sewage applied at each dose, in gallons.	Number of doses of heavy sewage.	Average quantity of heavy sewage applied at each dose, in gallons.	Total quantity of sewage applied to beds during the year, in gallons.	Equivalent average daily quantity applied per acre, in gallons.*
1.....	.126	57	12,600	35	10,080	1,071,000	23,287
2.....	.132	62	13,200	34	10,560	1,177,140	24,432
3.....	.133	68	13,300	35	10,640	1,276,800	26,301
4.....	.123	63	12,300	33	9,840	1,099,620	24,493
5.....	.307	.....	30,700	.....	.....	4,106,125	36,645
6.....	.211	.....	21,100	.....	.....	3,892,950	50,548
7.....	.180	.....	18,000	.....	.....	3,303,000	50,274
8.....	.157	.....	15,700	.....	.....	2,402,885	41,931
9.....	.176	.....	17,600	.....	.....	3,191,760	49,685
10.....	.178	.....	17,800	.....	.....	2,979,720	45,863
11.....	.183	.....	18,300	.....	.....	3,315,960	49,644
12.....	.219	.....	21,900	.....	.....	3,230,250	40,411
13.....	.218	.....	21,800	.....	.....	3,060,938	38,468
14.....	.329	.....	32,900	.....	.....	7,904,883	65,827
15.....	.343	.....	34,300	.....	.....	7,934,962	63,381
16.....	.343	.....	34,300	.....	.....	7,525,420	60,109
Total.	3.358	.....	.....	.....	.....	57,473,413	.....

Average daily gallons per acre for the year, 46,891.

\* All beds figured on basis of 365 days.

*Table Showing Amount of Sewage Let on and Amount of Sand and Sludge Removed from each Bed from December 1, 1894 to October 1, 1906.*

Number of bed.	Cubic yards of poor sand removed.	Cubic yards of sludge removed.	Average depth in inches of poor sand removed.	Total number of gallons of sewage let on.	Cubic yards of poor sand removed for each 1,000,000 gallons of sewage.
1.....	183	302	10 <sup>11-12-13-14</sup>	12,152,495	15.06
2.....	204	295	11 <sup>12-13-14</sup>	12,881,753	15.84
3.....	187	278	10 <sup>11-12-13-14</sup>	12,604,300	14.84
4.....	178	285	10 <sup>11-12-13-14</sup>	11,393,368	15.62
5.....	484	.....	11 <sup>12-13-14</sup>	52,858,016	9.16
6.....	537	48	19 <sup>20-21-22-23-24</sup>	36,342,998	14.78
7.....	431	.....	17 <sup>18-19-20-21-22-23-24</sup>	35,289,554	12.21
8.....	289	.....	13 <sup>14-15-16-17-18-19-20-21-22-23-24</sup>	30,857,030	9.37
9.....	289	.....	12 <sup>13-14-15-16-17-18-19-20-21-22-23-24</sup>	34,781,966	8.31
10.....	349	.....	14 <sup>15-16-17-18-19-20-21-22-23-24</sup>	34,835,003	10.02
11.....	279	.....	11 <sup>12-13-14-15-16-17-18-19-20-21-22-23-24</sup>	36,378,861	7.67
12.....	326	.....	11 <sup>12-13-14-15-16-17-18-19-20-21-22-23-24</sup>	40,704,782	8.01
13.....	342	.....	11 <sup>12-13-14-15-16-17-18-19-20-21-22-23-24</sup>	39,754,640	8.60
14.....	141	.....	2 <sup>3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24</sup>	20,589,583	6.85
15.....	172	.....	4 <sup>5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24</sup>	23,129,917	7.44
16.....	183	.....	4 <sup>5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24</sup>	23,103,590	7.92
14B.....	.....	.....	.....	1,706,876	.....
15B.....	.....	.....	.....	1,728,992	.....
Total.....	4,574	1,208	.....	461,093,724	.....

Beds 14B and 15B are small experimental beds discontinued April 19, 1902.

## Average of Chemical Examinations Made by the State Board of Health October 1, 1905, to October 1, 1906.

(Parts per 100,000.)

	RESIDUE ON EVAPORATION.		AMMONIA.			NITROGEN AS					
	Total.	In solution.	In suspension.	Free.	Albuminoid.		Chlorine.	Nitrates.	Nitrites.	OXYGEN CONSUMED.	
					In solution.	In suspension.					
Sewage, average of 13 analyses, Oct. 3, 1905, to Nov. 1, 1905, and May 16, 1906, to Oct. 1, 1906.....	140.6	68.9	71.7	8.49	1.88	.75	1.13	15.59	.....	15.50	
Effluent from Sedimentation Tanks, average of 12 analyses, Oct. 3, 1905, to Nov. 1, 1905, and from May 16, 1906, to Oct. 1, 1906....	78.1	58.7	19.4	7.74	1.06	.61	.45	11.80	.....	9.93	
Effluent from Sedimentation Tanks and Sand Filters, average of 14 analyses, Oct. 3, 1905, to Nov. 1, 1905, and from May 16, 1906, to Oct. 1, 1906.....	45.6 A	15.4 B	30.2	1.81	.158	.107	.051	9.36	1.81	.0307	1.68
Sewage, average of 11 analyses, Nov. 1, 1905, to May 16, 1906.....	140.9	59.6	81.3	9.87	2.03	.88	1.15	10.75	.....	23.67	
Effluent from Screen and Sedimentation Tanks, average of 11 analyses, Nov. 1, 1905, to May 16, 1906.....	86.8	58.7	28.1	9.27	1.46	.83	.63	10.68	.....	16.86	
Effluent from Screen and Sedimentation Tanks and Sand Filters, average of 16 analyses, Nov. 1, 1905, to May 1, 1906.....	42.7 A	14.3 B	28.4	3.77	.226	.188	.038	9.31	1.66	.0617	2.45

A=Loss on ignition.

B=Fixed.

*Purification Effected by Sedimentation Tanks and Sand Filters.*

(Parts per 100 000.)

	FREE AMMONIA.			ALBUMINOID AMMONIA.			OXYGEN CONSUMED.		
	Sewage.	Effluent.	Per cent. re-moved.	Sewage.	Effluent.	Per cent. re-moved.	Sewage.	Effluent.	Per cent. re-moved.
Oct. 1, 1905, to Nov. 1, 1905; and May 16, 1906, to Oct. 1, 1906.									
Purification effected by Sedimentation Tanks.....	8.49	7.74	8	1.88	1.06	43.6	15.50	9.93	35.9
Purification effected by Sedimentation Tanks and Sand Filters.....	8.49	1.81	78.7	1.88	.138	91.6	15.50	1.68	89.2

*Purification Effected by Screen Tanks, Sedimentation Tanks and Sand Filters.*

(Parts per 100,000.)

	FREE AMMONIA.			ALBUMINOID AMMONIA.			OXYGEN CONSUMED.		
	Sewage.	Effluent.	Per cent. re-moved.	Sewage.	Effluent.	Per cent. re-moved.	Sewage.	Effluent.	Per cent. re-moved.
Nov. 1, 1905, to May 16, 1906.									
Purification effected by Screen Tanks and Sedimentation Tanks.....	9.87	9.27	6.1	2.03	1.46	28.1	23.67	16.86	28.8
Purification effected by Screen Tanks, Sedimentation Tanks and Sand Filters.....	9.87	3.77	61.8	2.03	.226	88.9	23.67	2.46	89.6

## SCHEDULE.

Population of the city (State census, 1905) . . . . .	43,381
Total length of water mains connected with Pawtucket Water Works . . . . .	159.36 miles.
Total length of sewers . . . . .	51.86 "
Capacity of pumping engines, 12,000,000 gallons per 24 hours.	
Water pressure in Main street square, 110 pounds per square inch.	

## PROVIDENCE.

The following is extracted from the report of City Engineer, Otis F. Clapp:—

## WATER.

The population of the city is estimated at 203,000, and the population supplied in the suburbs is estimated at 16,800. Total population supplied, 219,800.

The number of meters in use in the city is 19,872, and the number of meters in use in the suburbs is 1,980. Total number of meters in use 21,852.

The number of service pipes in use in the city is 22,759, and the number of service pipes in use in the suburbs is 2,335. Total number of service pipes in use, 25,094.

The average daily use of water per service for the year 1906 has been 600 gallons.

The average daily use of water per capita for the year 1906 has been 68 gallons.

The water receipts for 1906 were \$691,459.12.

The net cost of maintenance for 1906 was \$257,935.36.

The net cost of the water works construction from November 8, 1869, to January 1, 1907, is \$7,228,867.84, upon which there has been a revenue for water sold of \$13,273,770.12.

The monthly and annual and the average daily and monthly consumption of water in gallons, including waste and leakage, during the year, is shown by the following table: (Table omitted.)

The maximum consumption of water for any one day during the year 1906 was 18,057,000 gallons.

At the Filter Plant, under the second contract of the Pettaconset Construction Company, the contractors have built two filter beds, placing the sand and gravel in one of them and putting it in operation; the second one remains to be filled with the filtering material.

For the year 1906, the people of Providence have been supplied with filtered water, no trouble of any kind was experienced during warm or mild weather,



but during the winter months it was very hard work to keep the filters in operation. It was found that the good of the service required that the filters should be covered. On May 8, 1906, a City Council resolution was approved for the building of two additional filters, the same to be covered, together with the eight beds already constructed, and permitted the extension of the present contract or the making of a new one for the same. Acting under this authority the old contract was closed and a new contract was made with the Pettaconset Construction Company to build two covered beds and to cover the eight beds previously built. The walls and floors of the new beds have been completed, the floor of the bed not filled with sand has been prepared ready for placing of columns. In part of the bed the columns are ready for the arches, and arch forms are ready for about one-sixth of a bed. The trouble with ice has again shown the wisdom of covering the beds. Plates III and IV illustrate the fact. (not reproduced.)

The seven completed filters have been working as well as could be expected under the circumstances. The use of water has increased both in the warm and cold weather. In the cold weather the ice has given us a good deal of trouble, and the beds have shown the effects in bacterial results. We have been fortunate, however, in not having to resort to the use of raw river water during the year.

The following table gives the average bacterial results by months:

#### MONTHLY AVERAGE OF BACTERIA PER CUBIC CENTIMETER.

(48-hour counts on 10 per cent. gelatine media.)

MONTH.	RIVER WATER.			FILTERED WATER.			Percentage Removed.
	Max.	Min.	Ave.	Max.	Min.	Ave.	
January.....	3,250	400	1,068	264	6	38	95.4
February.....	5,200	400	1,572	180	8	52	96.0
March.....	3,500	250	723	215	7	54	92.5
April.....	2,800	400	1,019	164	5	31	95.5
May.....	4,000	400	1,915	119	3	12	99.2
June.....	3,100	200	1,633	91	3	16	98.3
July.....	1,500	500	1,047	31	2	7	99.2
August.....	7,500	400	1,450	129	2	10	98.7
September.....	5,000	250	1,302	190	2	12	98.8
October.....	5,000	600	1,636	181	2	18	98.5
November.....	4,800	600	1,776	135	5	25	98.5
December.....	2,000	300	1,016	99	6	24	97.2
Averages.....			1,346			25	97.3

The seven filters have been cleaned ninety-five times during 1906, or an average of thirteen and six-tenths times per bed, and an average run between cleanings of twenty-two and four-tenths days. The maximum run was fifty and nine-tenths days and the minimum run was eight days.

Maximum amount of color removed, 41 per cent.

Minimum amount of color removed, 14 per cent.

Average amount of color removed 29.5 per cent.

The amount of sand taken from the beds during the year was about 11,290 cubic yards, reducing the depth of sand in the beds about one foot. No sand was washed during the year.

The cost of maintenance of the filter plant, per million gallons, has been:

For pumping water from the river on to the beds.....	\$2.90
“ cleaning beds, screens, etc.....	1.93
Total.....	\$4.83

Plates V, VI, VII show progressive stages of the work.

Plate VIII is a view showing condition of work on Dec. 31, 1906. (Plates not reproduced.)

## WATER WORKS STATISTICS FOR THE YEAR 1906.

IN ACCORDANCE WITH FORM ADOPTED BY THE NEW ENGLAND WATER WORKS ASSOCIATION.

### *Providence Water Works, Providence County, R. I.*

Population of Providence.....	203,000
Estimated population supplied in suburbs.....	16,800
Date of construction.....	1870 to 1876
By whom owned.....	City of Providence.
Source of supply,.....	Pawtuxet river, in the Town of Cranston.
Mode of supply,	

The water is pumped from the Pawtuxet river on to Slow Sand Filters situated on the opposite side of the river from the regular Pumping Station. It is carried under the river to the Pumping Station by gravity. It is pumped into a storage reservoir located upon a hill about one mile distant and 181.75 feet above *datum*. From this reservoir it flows into the city by gravitation, directly supplying a second storage reservoir within the city limits, and also that portion of the city which is of sufficiently low elevation to be served by gravitation. To supply that part of the city of too high an elevation to be served by these reservoirs, a

third reservoir is located in the town of North Providence. The water is pumped by supplementary pumping machinery from the second reservoir above mentioned or from the mains, in to the high service reservoir. This supplementary pumping machinery can also supply the high service district, if the reservoir should be out of service, by pumping directly into the mains.

In addition to the regular distribution pipes there is an independent high pressure fire system (deriving its supply from the high service), for protecting an area of about one-half of one square mile in the centre of the business portion of the city.

*(No account has been made in the following statistics of the pumping of water on to the filter beds. See page 30.)*

CONSUMPTION.

1.	Estimated total population of district at date,	219,800
2.	{ Estimated population on lines of pipe, . . . .	} Number not taking city water so small that total population is used.
3.	{ Estimated population supplied . . . . .	
4.	Total number of gallons consumed for year . . . . .	5,491,558,313
5.	{ Passed through meters, . . . . .	} Estimated about 60 per cent.
6.	{ Percentage of consumption metered, . . . . .	
7.	Average daily consumption in gallons, . . . . .	15,045,365
8.	Gallons per day to each inhabitant, . . . . .	68
10.	Gallons per day to each tap, . . . . .	600

NOTE:—Percentage of services metered = 87 %.)

SEWERAGE.

The work done at the Sewage Pumping Station on Ernest street is shown by the statistics below:

Total amount pumped for the year is estimated at 7,066,608,448 gallons at a total outlay for labor, fuel, work in screen chamber, and all other charges of \$17,372.49, or \$2.458 per million gallons pumped, or \$0.08116 per million foot gallons pumped.

Daily average for the year . . . . .	19,360,571 gallons
Daily average for wet weather, or days in which the rainfall was enough to visibly affect the quantity pumped . . . . .	26,175,351 gallons
Daily week-day average for dry weather . . . . .	18,490,164 gallons
Sunday average for dry weather . . . . .	12,983,134 gallons
Difference almost entirely manufacturing and elevator waste . . . . .	5,507,030 gallons

Days on which a measurable quantity of rain fell, but not enough to visibly affect the pumping.....	64
Days on which pumping was visibly affected.....	53
Days on which rain fell, but not a measurable quantity.....	39
Days on which no rain fell.....	209
Maximum pumpage, Dec. 31, 1906, 42,556,205 gallons, No. 1 Engine running 15 hours and 55 minutes; No. 2 Engine running 22 hours and 25 minutes, making a total run of 38 hours and 20 minutes.	
Minimum pumpage August 19, 1906, 9,338,382 gallons, No. 1 Engine running 13 hours and 40 minutes.	

At the Precipitation Tanks the estimated amount passing through the tanks was 7,431.6 million gallons, including storm water.

The amount of sludge pumped was 31.7 million gallons.

The presses were emptied 31,614 times, producing 35,534 tons of sludge cake.

The presses were in operation 2,494 hours.

## SUMMARY OF PURIFICATION STATISTICS.

### CHEMICAL PRECIPITATION.

1. Population in 1906, 203,000.
2. Population served by sewers, about 182,000.
3. Length of sewerage system in miles: Combined, 205.89; storm, 9.94.
4. Character of sewage: Manufacturing, wool washings, jewelers', dyeing and bleaching wastes, with domestic sewage.
5. Strength of average sewage (parts per 100,000): Albuminoid ammonia, total, 0.729; soluble, 0.370; suspended, 0.359; chlorine, 45.58.
6. Daily flow of sewage in million gallons: Maximum, December 31, 43.5; minimum, August 19, 10.3; average for the year, 20.36.
7. Average daily flow of sewage treated: 19,550,000 gallons.
8. Pounds of lime used per million gallons of sewage (treated): 637.75.
9. Other chemicals used: Copperas, 72.1 pounds per million gallons.
10. Cubic contents of settling basin up to water surface, when in use, in million gallons: 11.13.
11. Per cent. organic matter removed from sewage in terms of albuminoid ammonia: Total, 43.35; suspended, 85.07.
12. Disposition of effluent: Discharged into Providence river off the end of Field's Point under 36 feet of water.
13. Volume of sludge produced in gallons per million gallons of sewage treated: 4,444.4.
14. Per cent. of solids in wet sludge: 7.43.

15. Method of sludge disposal: Pressed and cake hauled by stream train to dump.

16. Cost of treatment per million gallons of sewage: Chemical precipitation, \$3.50; sludge disposal, \$3.10.

#### SLUDGE PRESSING.

1. Average number of gallons pumped per day, 86,893.
2. Per cent. of solids in wet sludge: 7.43.
3. Pounds of lime added per thousand gallons of sludge: 23.07.
4. Description of machinery used: Sludge pumped by Shone ejectors (two, 500 gall.) to storage reservoirs: thence by gravity to forcing receivers (four, 8 ft. dia. x 12 ft. long); thence forced under 60 to 80 lbs. pressure per square inch up into the presses. The ejectors and forcing receivers are run by air pressure generated by one 150 and one 50 h. p. air compressors actuated by electric motors; 18 filter presses are used, each with from 43 to 54 plates, with six-inch center holes, forming cakes 36 inches square and from  $1\frac{1}{4}$  inch to  $\frac{3}{4}$  inch thick, between filter cloths which surround the plates.
5. Hours of operation of presses daily: 6.83.
6. For light, heat and power, \$7.69 per day.
7. Tons of sludge cake produced daily: 97.16.
8. Per cent. of solids in pressed cake: 27.7.
9. Tons of solids in sludge cake produced daily: 26.97.
10. Cost of operation per ton of solids: \$2.24.

NOTE.—About .4 short tons of solids per day, or its equivalent 1.43 tons of pressed sludge, were taken from the sewage by screening at the Sewage Pumping Station and the Elmwood screen house.

This should be added to quantities given as taken out at the Precipitation Plant in considering the total purification of Providence sewage. (See items under sludge Pressing, Nos. 7 and 9.)

Quantities per day in above table calculated on basis of 365 days' work.

#### EXTRACTS FROM REPORT OF THE SUPERINTENDENT OF HEALTH OF THE CITY OF PROVIDENCE.

(Charles V. Chapin, M. D., superintendent of health; Eugene P. King, M. D., medical inspector; Charles H. Leonard, M. D., vaccinating physician; Frederick P. Gorham, Ph. D., bacterologist; Charles E. Hawkes, M. D., Ellen A. Stone, M. D., school inspectors; N. Darrell Harvey, M. D., oculist.



From July 4 until September 10 I was absent from the city, and during that time Dr. Eugene P. King, the medical inspector, who was elected deputy superintendent of health, had charge of the department. The summer proved to be a busy one owing to the distribution of pure milk for babies, the occurrence of two or three outbreaks of typhoid fever due to milk, and chiefly to the development of rabies. It is many years since there have been any cases of this disease either among human beings or dogs in this city, but the outbreak became a serious one in midsummer, and Dr. King's readiness to meet the emergency received the hearty approval of the medical profession and of all others who had regard for the welfare of man and beast.

Mr. Walter J. Lewis, who had been since 1894 connected with this department as sanitary inspector, suffered from a serious illness in the autumn of 1905, and though he partially recovered so that he was able to be at the office until the middle of the summer of 1906, he then had to give up, and died on September 25th. He had always been a most excellent officer and his loss was seriously felt by the department.

During the year, 696 complaints of nuisances were made at this office. In addition to these complaints, 57 were received through the police, making 753 complaints received from the public during the year. A large number of these, however, had already received attention when the formal report reached this office, and 82 were found to be unfounded. While abating these nuisances the inspector made 1,035 visits.

#### GARBAGE.

During the year the "swill and house offal" was collected by Messrs. A. H. & J. Barney under a temporary arrangement at the rate of  $15\frac{1}{2}$  cents per capita. The amount paid has been \$2,299.17 per month, the population being estimated at the time the agreement was made at 178,000. This makes the annual payments \$27,590.04. The contractors use 24 two-horse wagons. It is not known how much garbage is collected. It may be anywhere from 16,000 to 20,000 tons per annum.

A small amount of garbage is collected from hotels and restaurants by farmers who receive a special license for this. There are also a considerable number of farmers who purchase swill from the contractors and draw it out into the country to feed to swine. Each person is required to have a license for this. In all, 108 of these licenses were issued during 1906. These licenses run from April 1st to April 1st. Since these farmers have been required to have water-tight steel wagons little trouble has been experienced from them.

## DEAD ANIMALS.

The five-year contract for the removal of dead animals, executed July 10, 1903, remains in force. Under it the contractors, William Edmonds and Theodore S. Barnes, have the exclusive privilege of removing all dead animals, and all meat condemned by the Inspector of Provisions. For this privilege they pay the city each year \$1,500, and furnish the Inspector of Provisions with a suitable horse and wagon for condemning and removing meat. This service has by no means been satisfactory.

The contractor is obliged to report weekly to this office the number of dead animals and the amount of condemned meat removed. The following table shows the number of animals removed since the contract was signed:

	Horses.	Cattle.	Other Animals.	Total.
1903, six months.....	327	11	2	340
1904.....	694	16	3	713
1905.....	593	15	.....	608
1906.....	654	13	.....	667
Total.....	2,268	55	5	2,328

## INSPECTION OF PROVISIONS.

During the winter of 1906 there was considerable popular excitement over the food question, owing to the disclosure concerning the methods employed in the Chicago slaughter houses, and to the alleged sale in this state of tuberculous meat condemned in Massachusetts. Drastic measures were proposed in the General Assembly and finally an act was passed, which so far as the City of Providence was concerned, was more favorable to the dealers than the old law. Formerly the inspector could seize and destroy at once any provisions condemned by him, but under the new law if the dealer demands, he must be allowed to retain the goods for one hour, in which he will probably strive to get evidence that the articles are in a wholesome condition.

The following are the provisions of this act:



## PUBLIC LAWS, CHAPTER 1357.

AN ACT IN AMENDMENT OF AND IN ADDITION TO CHAPTER 131 OF THE GENERAL LAWS, ENTITLED "OF THE INSPECTION OF BEEF AND PORK."

*It is enacted by the General Assembly as follows:*

SECTION 1. Chapter 131 of the General Laws, entitled "Of the inspection of beef and pork," is hereby amended by adding the following sections:

"Sec. 25. The importation or exportation, and the sale, offering for sale, exposing for sale, or having in possession with intent to sell, within this state, of any carcass of any slaughtered animal, or any meat or fish of any kind consisting wholly or in part, and whether manufactured or not, of any tainted, decomposed, putrid, rotten, decayed, or unwholesome animal substance or article, diseased, corrupted, unfit for food, is hereby prohibited.

"Sec. 26. The inspector of beef and pork, each deputy inspector, each assistant inspector, and each inspector of beef and pork of any town or city, within their respective jurisdictions, shall seize and cause to be destroyed or disposed of, otherwise than for food, all the articles mentioned in the preceding section found within their respective jurisdictions, and for such purposes they may enter any building, enclosure, or other place in which such articles are stored, kept, or exposed for sale: *Provided*, that every such inspector shall, upon the request of the owner of any such article, or upon the request of such owner's agent or servant, permit such owner, his agent or servant, to retain a sample of any such article, and such inspector shall retain said article for the period of one hour for examination by such person or persons as said owner or his agent or servant may select. Every such inspector, at the expiration of one hour after seizure of any such article, shall treat such article with kerosene oil or other substance rendering it impossible to use such article for food or food products. It shall also be the duty of each of such officers to act forthwith within their respective jurisdictions upon notice from the state board of health, the superintendent of health, the city physician, the mayor of any city or the town council of any town. Such inspectors shall forthwith report every such seizure to the chief of police or town sergeant, respectively, of their town or city.

"Sec. 27. The town council of any town and the city council of any city are hereby authorized to elect annually, or appoint, one or more inspectors of beef and pork, and to provide for their compensation by salary or fees. Every such inspector shall, before entering upon the duties of his office, give bond in the sum of one thousand dollars for the faithful performance of the duties of such office and the payment of the value of any property illegally or unlawfully destroyed under the provisions of this act, and shall have all the rights, powers, fees, and

privileges, and be subject to all the duties, penalties, and forfeitures, the same as the state inspector of beef and pork, with the power to appoint deputy inspectors.

"Sec. 28. Whoever prevents, obstructs, or interferes with any such officer, or whoever hinders, obstructs, or interferes with any such inspection or examination, or whoever secretes or removes any article mentioned in Section 25 of said Chapter for the purpose of preventing the same from being inspected or examined under the provisions of said chapter, shall be fined not exceeding one hundred dollars."

SEC. 2. This act shall take effect upon its passage, and all acts and parts of acts, general or special, inconsistent herewith are hereby repealed; but the tenure in office of any inspector of beef and pork already elected or appointed shall not be affected hereby and such officer shall continue in office for the remainder of his term, with all the powers and duties appertaining to such office under the provisions of this chapter.

Passed April 20, 1906.

Nine thousand five hundred twenty-nine visits were made to 644 stores, and in addition there have been made 2,392 inspections of meat, fish and produce peddlers' wagons, and twenty-four complaints attended to.

#### BOARDING HOUSES FOR INFANTS.

These boarding houses are required to take out licenses annually by Chapter 464 of the Public Laws (May 20, 1897). They must also be inspected annually by this department. Nine licenses were issued in 1906 authorizing the receiving of 32 children. The largest number in any one house was five.

#### MEDICAL INSPECTION OF SCHOOLS.

The inspection of schools has continued during the year on about the same lines on which it was inaugurated in the spring of 1904. Only two inspectors have been employed for the daily inspections, and of course they are unable to give as close attention to the pupils as the teachers desire. The greatest defect in school inspection as inaugurated in this city was that the regular inspectors were not trained oculists and there was no means of securing a proper examination of the eyes of those pupils who were found to be apparently suffering from some defect of vision. The necessity of providing for a better inspection of the eyes of the school children was appreciated by the board of aldermen, and on Jan. 18, 1906, I was authorized to employ an oculist at an expense not to exceed \$500 per annum. Dr. N. Darrel Harvey was engaged, and began his services on Feb. 5. The regular inspectors state that nearly all children who are sent to

him, do go, and have their eyes examined. Arrangement was also made with the Doleman Optical Co. by which they agreed to make a reduction of fifty per cent. from their regular prices to all school children sent them by Dr. Harvey. To facilitate the work of the school inspectors' test cards were placed in each school. When a child is found with defective vision the following note is sent to the parent:

#### HEALTH DEPARTMENT.

To.....

I have examined.....  
 who attends.....school, and find  
 that there is trouble with the eyes. The trouble is bad enough to interfere with  
 school work, and on account of it the child may not be able to keep up with the  
 class. The child should be examined by a skilled eye doctor who will probably  
 have to put some drops in the eye and examine the eye in a dark room. It is  
 usually not possible in the case of a child to find out what is the matter with the  
 eyes, or to fit glasses, without examining them in this way, though it may some-  
 times be done for grown people. If you are able to pay, you must take the child  
 to a reliable eye doctor—to your own eye doctor if you have one.

People who are too poor to pay a doctor may go to the physician who has been  
 provided by the city. This is *Dr. N. D. Harvey, 262 Benefit Street*, near the big  
 court house, on the corner of College Street. The hours are *8.30 A. M. till noon*  
*on Mondays and Fridays.*

*Medical Inspector of Schools.*

Some older person must go with the child and *this paper must be taken to the*  
*doctor.*

After the eyes have been examined Dr. Harvey sends a report to this office and  
 a copy of this is sent to the teacher who sees to it that the parents are urged to  
 get the glasses prescribed or to follow any other directions. The director of physi-  
 cal culture, Miss Le Garde, has taken great interest in this subject and has done  
 a great deal in the way of obtaining glasses for those who were too poor to pay  
 even the moderate charges of the optician. Between the 5th of February and  
 the end of the school year, 156 children were examined by the oculist.

A great part of the work of the school inspectors relates to pediculosis and con-  
 tagious skin affections. It has been found best for the inspectors to treat most of  
 these cases, and the small amount of material used for this purpose is furnished  
 by the department.

The work of the inspectors as shown below is tabulated by school years, the  
 period covered by the table being the year 1905-6.

## SUMMARY OF MEDICAL INSPECTION OF SCHOOLS.

Specific infectious diseases . . . . .	89
Oral and respiratory diseases . . . . .	671
Diseases of the ear . . . . .	93
Diseases of the eye . . . . .	1,023
Diseases of the skin . . . . .	860
Miscellaneous diseases . . . . .	1,078
Found free from disease . . . . .	172
<hr/>	
Total . . . . .	3,986
<hr/>	
Number of pupils examined in the schools . . . . .	2,292
Number of pupils examined at City Hall . . . . .	1,002
Number of pupils examined at their homes . . . . .	127
<hr/>	
Total . . . . .	3,421
<hr/>	
Number reported as having followed advice given them . . . . .	865
Number reported as not having followed advice given them . . . . .	382
Number reported as promising to follow advice given them . . . . .	66
<hr/>	
Total number reported . . . . .	1,313

The agency of the public schools in the transmission of scarlet fever and diphtheria was considered in the report for 1903, page 112 *et seq.* At that time 11 outbreaks of diphtheria and 6 of scarlet fever had been noted. In 1905 there was one outbreak of diphtheria, and in 1906 one, making in all, 13 school outbreaks of diphtheria and 6 of scarlet fever.

It is the custom of this department if possible not to exclude from school children in the house except those of the family in which the disease actually exists. If, however, it is believed that there will be no isolation, and there will possibly be a mingling of all the children in the house, they are all excluded. In the majority of instances the other children in the house are allowed to attend school.

In diphtheria, children in the non-infected families are not generally allowed to go to school until a negative culture has been obtained from the throat. Of the 167 children who were thus examined in 1906, 3 showed the presence of diphtheria bacilli, and the children in these families were therefore not given permits. During 1906, permits were given to 162 children living in 93 "infected houses," but not in infected families, to attend school. During the past eleven years the

figures are 760 children in 341 families. In none of these did the disease develop which indicates that it is quite safe to permit children in the infected house, but not in the infected family, to attend school, except in those cases where manifestly no care is taken.

In scarlet fever children in the non-infected families are in most instances allowed to attend school. If they have had the disease previously they are given their permits at once, but if they have not had the disease they are usually kept out of school for a week. During 1906 permits were given to 79 susceptible children in 42 families. During the past ten years the figures are 601 children in 352 families. Previous to 1904, none of the children who received permits developed scarlet fever, but in that year, there were 5 cases in 2 families.

#### DISINFECTION.

Disinfection after communicable disease in the city is not compulsory, and is only done at the request of the family. It is done by this department without charge. A statement of disinfections for separate years may be found in previous reports.

The following gives the number since 1900:

#### DISINFECTIONS.

YEAR.	Scarlet Fever.	Diphtheria.	Phthisis.	Miscella- neous.*	Total.
1900.....	313	289	12	34	648
1901.....	238	421	20	29	708
1902.....	186	362	23	62	633
1903.....	393	506	34	49	982
1904.....	864	600	29	33	1,526
1905.....	298	98	38	50	484
1906.....	328	18	51	28	425

\*Of these the following were for small-pox: in 1902, 43; in 1903, 8; in 1904, 2; in 1905, 1, and in 1906, 1.

The value of disinfection after diphtheria has been discussed by me in previous reports and elsewhere.† It has seemed to me that disinfection is useless after diphtheria unless it is shown with a reasonable degree of certainty that all members of the family are free from diphtheria bacilli. Consequently, it was decided early in March, 1905, to give up disinfecting after diphtheria unless two successive negative cultures were obtained from every member of the family. As few are

† 1903, p. 109-112, 1905, p. 17. Providence Medical Journal, 1905, p. 109. Journal of the American Medical Association, 1906, Vol. XLVII, p. 574.



willing to submit to the taking of the cultures few disinfections have been done since that time.

The number of recurrences after disinfection, the number of infected families and the ratio between the two since 1902 are as follows:

YEAR.	Infected Families.	Recurrences.	Ratio.
1902.....	358.....	6.....	1.67
1903.....	453.....	7.....	1.54
1904.....	559.....	10.....	1.78
1905.....	87.....	2.....	2.30
1906.....	18.....	0.....	0
Total....	1,475.....	25.....	1.69

The number of recurrences where there was no disinfection and the ratio to infected families where there was no disinfection, is as follows:

YEAR.	Infected Families.	Recurrences.	Ratio.
1905.....	258.....	4.....	1.55
1906.....	259.....	4.....	1.55
Total....	516.....	8.....	1.55

Of the five cases of recurrence in the family the time of attack was 5, 12, 32, 60, and 99 days after the removal of the warning sign. As recurrences occurring over two months after the removal of the placard are not reckoned as such, the number tabulated above is only 4.

Besides the above there were two instances in which there was recurrence in other families in the house 3 and 46 days after the removal of the warning sign.

There were 9 possible cases of recurrence of scarlet fever in the family after removal of the warning sign. These were on the same day, and on the 1st, 1st, 4th, 14th, 17th, 17th and 48th day, and during the third month after the removal of the warning sign. In only one instance, that which occurred on the 17th day was there no disinfection. In at least half of the instances above referred to there was much scarlet fever in the neighborhood, and infection from without was quite as likely as infection in the family.

Besides the above there were 7 instances where there was recurrence in other families in the house. The time of recurrence after the removal of the placard was 3, 18, 21, 23 and 52 days and 6 and 7 months. In at least five instances there was a great deal of scarlet fever in the neighborhood. In the instance where the period was 3 days there was no disinfection.

## VACCINATION.

During the year 1906 the number of persons vaccinated was 2,763. The only public vaccination has been at the Fourth Ward Room on Fountain Street, Friday afternoons. The use of humanized virus which had hitherto been chiefly employed, was discontinued early in 1901 and glycerinized bovine virus has since been used. The number of certificates of vaccination issued was 3,177.

## QUARANTINE.

The custom at this port is for the signal officer to hail all vessels arriving from a foreign port and ascertain whether they have a clean bill of health, and whether there is, or has been, any sickness on board. If there is sickness on board, or if they have not a clean bill of health, or if they come from any port outside of British North America, they are brought to anchor, and inspected by a physician from this department.

The number hailed each year from 1893 to 1903 was given in my report for 1903, page 18.

The following is the number of vessels boarded by the health officer during the last eleven years, and the places from which they sailed: (Table omitted.)

## RABIES.

During the fifty-one years of registration in Providence there have been recorded six deaths of human beings from rabies. These occurred one each in the following years: 1856, 1863, 1876, 1877, 1878, and 1888. I cannot learn of any case of human or animal rabies in Providence since the latter year. There has been a considerable amount of this disease in Massachusetts for three or four years, and it is rather surprising that it has not before extended to this state. This disease does not, as is popularly supposed, arise *de novo* in dogs during the hot weather owing to overheating, overeating and overdrinking. It is a purely contagious disease, and is passed on from animal to animal by bites. The virus of the disease is in the saliva and is inoculated by the bite, and gradually works its way up into the brain and spinal cord, and almost always causes death. Most animals that have rabies become exceedingly wild or delirious, and, if dogs, often run long distances and bite the animals and human beings that they meet, and even attack and bite inanimate objects. Sometimes, however, rabid animals become quickly paralyzed, the so-called dumb rabies. Until recently a great many mistakes were made in the diagnosis of this disease. While an expert can generally recognize a case of rabies, most so-called mad dogs are promptly killed and are never seen by a veterinary. Within a few years it has become possible to de-



termine with a great degree of accuracy by a microscopic examination of the brain of an animal, whether or not it had rabies. Such examinations usually show that most of the so-called mad dogs are not mad at all, but simply have some kind of convulsions. But it has been otherwise during the present outbreak. Mad dogs have been much more numerous than most persons have been ready to admit.

There had been some talk about mad dogs during the summer, and at least one alleged biting of a human being by a mad dog in a neighboring town. The first suspicious case reported in Providence was on July 28th. A boy named Joseph Sylvia, who lived at 63 Coddington street, was bitten by a dog on Westminster street, which, according to observers, among whom was Councilman Grimwood, was probably rabid. The dog was shot by a policeman, and when the matter was brought to the attention of Dr. King, he at once secured the dog and sent it to Boston by a special messenger, in order that the brain might be examined by modern methods to determine whether or not the dog was really mad. The head was examined at the Boston City Laboratory, and word was received on the next Tuesday that the Negri bodies had been found in the brain, which demonstrated that the dog actually had rabies.

Almost all authorities are agreed that the so-called Pasteur treatment, if applied within a week after a bite by a rabid animal, will almost surely prevent the development of the disease. The most available place where this treatment was given at that time was the Pasteur Institute at 313 W. 23d Street, New York city, of which Dr. Wm. L. Wheeler is the director. As soon as Dr. King was certain that Joseph Sylvia had been bitten by a rabid animal, he took measures to have the boy subjected to this treatment. After consultation with the mayor and city solicitor, it was found that no municipal funds were available to pay for such treatment, and Mayor Elisha Dyer promptly offered to bear the expense himself, which he did, and the boy was at once sent on to New York, Dr. King making all the arrangements. In his instance, and for most of those afterwards sent to New York, it was necessary to pay not only the cost of the treatment, \$100, but also the expenses to and from New York. In the case of some small children it was also necessary to pay the expenses of an attendant.

Four more children were bitten by a rabid cat on August 24th and another by a rabid dog on August 29th. The newspapers gave ample publicity to these facts and public interest in the matter was very great. As this department had no money to send these cases to New York a public subscription was started by the newspapers and \$207.50 was soon collected. Dr. King conferred with Dr. Wheeler of the Pasteur Institute, and he generously offered to treat all cases that Dr. King should send, it being understood that every effort would be made to secure a municipal appropriation to pay for their treatment. After that every

person believed to have been bitten by a rabid animal, with some exceptions to be noted, was sent on to New York for treatment. When the board of aldermen met on September 6th, a resolution was adopted appropriating \$1,000 for the expenses of this treatment. The resolution, which was concurred in by the common council and approved October 3d, was as follows:

RESOLVED, That His Honor the Mayor be and he is hereby authorized and directed to expend a sum not exceeding One Thousand Dollars for the purpose of defraying the expenses of patients from the City of Providence who have been treated this season at the Pasteur Institute in New York, or who may hereafter be sent to said institute for treatment, said sum or so much thereof as shall be necessary to be charged to any appropriation for the Health Department.

The above sum was nearly all contracted for by the time the resolution was adopted, and as cases of bites by rabid animals continued to be reported, another resolution of similar purport was introduced. This resolution provided that the money should be taken from the appropriation for contingencies. It was approved November 8th, but was repealed by the following resolution, approved Dec. 4, 1906:

RESOLVED, That the Superintendent of Health is hereby authorized to defray the expenses of patients from the City of Providence who have been treated at the Pasteur Institute in New York city since September 30th, 1906, or who may hereafter be sent to said institute for treatment, provided that the bill for each patient shall be approved by the Mayor, and provided also that the amount so expended during the present fiscal year shall not exceed the sum of Twenty-five Hundred Dollars, said sum to be charged to the appropriation for the Health Department; and City Council Resolution No. 457, approved November 8th, 1906, is hereby repealed.

By the middle of November it appeared that the expense of applying the Pasteur treatment to persons bitten by rabid animals was likely to be very great. Moreover, the inconvenience and expense of sending the patients to New York was considerable. In fact in two instances the persons bitten did not go to New York, but their family physician inoculated them with material prepared by the board of health of the City of New York. After careful consideration and investigation, the Rhode Island Hospital decided to undertake the treatment of these cases. Dr. Albert A. Barrows, acting under the advice of Dr. Frank T. Fulton, the pathologist of the hospital, was engaged, and the spinal cords of the rabbits were obtained daily from the board of health of the City of New York. The expense is borne by the city. Dr. Barrows himself prepares the cords for injection and makes the injections. He began with his first patient on November

20th. It is certainly a very great convenience to have the cases treated here in Providence, and it was chiefly for this reason that the work was undertaken. The Pasteur Institute in New York had shown this department every kindness and consideration, and had treated practically all our cases without any guarantee that payment would be forthcoming. But there was so much difficulty in arranging for the patients to go to New York that it has been a great relief to all concerned to have them treated in Providence.

From July 28th to December 31st there were, so far as known, 51 persons bitten by rabid animals. These were distributed by months as follows:

July.....	1
August.....	8
September.....	10
October.....	12
November.....	14
December.....	6
<hr/>	
Total.....	51

Of these 51 persons, 41 were bitten by dogs and 10 by cats. In 45 instances, it was demonstrated by finding the Negri bodies in the brain that the animal that did the biting actually had rabies, and in all instances but one there was no doubt of the diagnosis. Of the 51 persons bitten by presumably rabid animals, 5 declined the preventive treatment. In none of these has the disease developed. Two were treated by their family physician at home. Two who belonged in Boston were sent on to the Pasteur Institute from their home city, and one belonging in Philadelphia was sent to the institute from that city. Thirty-three were sent to the Pasteur Institute from Providence. Of these, two paid their own expenses, two were sent by popular subscription, one was paid for by Mayor Dyer, and twenty-eight went at the expense of the city. Eight cases were treated at the Rhode Island Hospital. Besides the \$207.50 received by popular subscription, the city expended for the preventive treatment \$2,970.80. Of this, \$195.80 was paid to the Rhode Island Hospital. When the city guaranteed the cost of furnishing this treatment at the hospital it was agreed that cases from outside the city might be treated by paying \$25 to the city. Seven such cases were treated, for which the city received \$175. So that the net cost to the city of the preventive treatment was very small. Later, the city made no charge for out-of-town cases, but a charge was made by the hospital, the amount to be divided between the hospital physicians and the New York board of health. Besides the cost of the Pasteur treatment, the city expended \$414.81 for the ex-

amination of suspected animals, and \$192.94 for miscellaneous expenses, so that the total cost to the department of the rabies outbreak was \$3,578.55.

The preventive treatment was entirely successful in every case but one, though in a majority of the persons treated, a varying amount of muscular weakness, lassitude and nervousness resulted. In one instance a woman was bitten on the hand on October 14th. On the 18th she went to the institute in New York and returned on November 5th, and was taken sick on the 15th. She was extremely nervous and had considerable weakness of the lower limbs. One night, she was delirious. As she did not improve, her husband sent her to the Rhode Island Hospital November 20th. Here she continued to grow worse, some paralysis developed, and she finally died November 23d. No Negri bodies were found, and unfortunately the use of embalming fluid rendered an inoculation test impossible. A provisional diagnosis of acute myelitis was made at the hospital, but after a careful examination of the organs and a consideration of the symptoms, the pathologist considered that the patient probably died of modified rabies.

In August a man in an adjoining town was bitten by an animal supposed to be rabid. The wound was cauterized, but nothing else was done. During the early days of December he began to show suspicious symptoms and was taken to the Rhode Island Hospital, where the diagnosis of rabies was made. He died December 8th, and Negri bodies were found in his brain.

The thing of most importance in an alleged outbreak of rabies is to determine whether the disease really exists, whether the animals supposed to be mad are actually suffering from rabies. It is fortunate that now, as was stated above, this can be determined with a great degree of accuracy. A few years ago it was discovered by an Italian named Negri that certain peculiar forms are almost universally present in some of the brain cells of rabid animals and that they are found nowhere else. These observations have been confirmed by many observers in different lands and Negri's conclusions have been accepted by practically all pathologists. Observations made in Providence certainly confirm the value of this discovery. It is unwise and presumptuous for veterinaries, dog fanciers, physicians, editors or health officials, who have had no experience to deny the value of this test. While it is necessary to maintain a critical attitude towards even the most firmly established scientific truths, it would be very wrong to deny the value of this test without any investigation. Many dog owners, some veterinary physicians and various writers to the Sunday papers have denied that there was any rabies at all in Providence. I, personally, have seen unquestioned cases in man and animals and the existence of the disease has been recognized by some of our best veterinarians. There is a lamentable popular ignorance as to the nature of this disease. It has even been claimed by one of our newspapers that rabies could develop in a dog as the result of the nervous irritation due to muzzling. A



dog in a fit is often erroneously supposed by the public to be mad, while the nature of the disease is often denied in animals that really have rabies. Of course Dr. King determined on the first suspicion of rabies, to make use of this microscopical method of diagnosis, and as was stated above, he sent the head of the first suspicious dog to Boston for examination. When later it seemed probable that there would be a good deal of this disease in the city, he applied to the biological department of Brown University, and since then all the examinations have been made by Mr. Philip B. Hadley of that department. In all, there have been examined 86 animals belonging in Providence, of these, 72 were dogs and 14 were cats. Of these, 43 dogs and 6 cats were reported as showing evidences of rabies. In nearly every instance in which the symptoms seemed to point to the disease the Negri bodies were found and they were only found in one animal in which the disease had not been suspected. Animals, that so far as I knew were perfectly well, were sent to the laboratory and in none of these were the Negri bodies found. Twenty-seven animals, twenty-three dogs and four cats, in whose brains Negri bodies were afterward found, bit human beings. Two dogs that bit human beings afterward disappeared, but they also bit dogs which developed rabies and in which the Negri bodies were found. Three other dogs that bit human beings, were, for one reason or another, not examined after death, but had presented unquestioned symptoms of rabies. In one other case only, was the condition of the dog doubtful. Thus the fifty-one persons reckoned as having been bitten by rabid animals, were bitten by thirty-three animals, in all but one of which the diagnosis of rabies was certain. It is impossible to make any accurate estimate of the number of rabid animals in the city, but I do not think that two hundred would be an exaggerated estimate. The dog officer killed a large number of suspicious animals, but as was stated above, unless a human being was bitten, no examination of the animal was made.

During the period that rabies prevailed reports came to the office daily of persons who had been bitten by dogs. A great many people were greatly alarmed, and at one time scarcely a day passed when several bites were not reported. In some instances the dog that did the biting was unknown, and usually in such cases it was advised that nothing be done. Personally, I do not think it is desirable to cauterize the wound and have so advised. When the dog was known and presented symptoms suggestive of rabies it was killed and the brain was examined. If the dog seemed to be perfectly well it was kept under observation for a week, and was not killed for examination unless suspicious symptoms developed. The following shows the number of persons bitten who were reported at this office:

July.....	6
August.....	17

September. . . . .	50
October. . . . .	45
November. . . . .	49
December. . . . .	38
<hr/>	
Total. . . . .	*205

There is no reason for believing that all dog bites were reported even at the period of greatest interest in the matter, so that there can be little doubt that every year many hundreds of people in this city are bitten by "man's best friend," and thus is vindicated the inalienable right of every American citizen to keep a dog to bite his neighbor and defenseless women and children. The 5,000 dog owners of the city believed that the rest of our people had no rights that they were bound to respect. The health department thought otherwise. As rabies is a contagious disease, that is, is maintained solely by one animal biting another, the best way to combat it is to prevent in some way this biting. The muzzling or restraint of dogs has in other communities, notably in England, been shown to be effectual in checking the disease. Hence, when it appeared that the disease was likely to be epidemic the following communication was sent by Dr. King to the committee on the health department:

AUGUST 2d, 1906.

TO THE CHAIRMAN OF THE COMMITTEE ON THE HEALTH DEPARTMENT:

DEAR SIR:—On July 16th, last, it was reported to me that a boy had been bitten by a dog supposed to be rabid, and on receiving the body of the dog from the dog officer, it was shown by approved laboratory test that the dog had been suffering from rabies. On account of the fact that a considerable proportion of human beings bitten by rabid dogs contract hydrophobia, which is reckoned as invariably a fatal disease, I ask your committee to recommend to the city council the passage of an ordinance to the effect that whenever it is shown to the satisfaction of the superintendent of health, or the chief of police that rabies exists in Providence or in the dangerously near vicinity, the chief of police may order the muzzling of all unrestrained dogs for a period of at least sixty days from the date of the last appearance of a wandering case of that disease, or that your committee take such other action as may seem best to you.

Respectfully submitted,

EUGENE P. KING,

*Deputy Superintendent of Health.*

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\*Of the above, seven by cats and one by a monkey.

As a result of this communication, and after consultation with the law department, the following ordinance was passed:

[Approved August 3, 1906.]

*It is ordained by the City Council of the City of Providence as follows:*

SECTION 1. Every owner or keeper of a dog running at large within the limits of the City of Providence shall cause such dog to be securely muzzled during the period of time extending from the sixth day of August to the sixth day of October, A. D. 1906.

SEC. 2. Any person may, and the special constable under the dog law and every police officer shall, kill or cause to be killed all dogs going at large and not muzzled in accordance with the provisions of the foregoing section.

SEC. 3. This ordinance shall take effect from and after its passage.

For a short time this ordinance was fairly well enforced. Many dogs were not allowed on the streets at all, and such as were free, were properly muzzled. But very soon dogs appeared without any muzzles, and large numbers of dog owners attempted to evade the law by deliberately putting on muzzles that were not secure. During the whole of September the general violation of the ordinance was notorious. Thus the intent of the ordinance and the efforts of the law-abiding dog owners were frustrated by the law breakers. After this experience the health department naturally felt that no legal steps could be taken to eradicate the disease, and the only effort made was to give advice and assistance to those who were bitten. This occupied a very considerable part of the time of Dr. King, the clerk and myself, and rapidly consumed the appropriation for the department. Finally the city council became much disturbed at this state of affairs and measures for control were introduced in both branches. The committee on ordinances gave the matter careful consideration and consulted with the dog officer, and the law, police and health departments. The chairman of the police commission explained the difficulty of enforcing the muzzling ordinance. As a result of these conferences the following ordinance was adopted and has been very well enforced and with most excellent results:

[Approved December 29, 1906.]

*It is ordained by the City Council of the City of Providence as follows:*

SECTION 1. No dog shall go at large in any street or highway within the limits of the city, and every dog shall be deemed and held to be going at large within the meaning and intention of this ordinance, which is loose or unsecured by a leash; and every owner or keeper of any dog found so at large on any such street or highway shall pay a penalty of five dollars to be recovered by complaint and war-



rant, one-half thereof to the use of the complainant and one-half thereof to the use of the city, to be applied to the support of public schools therein.

SEC. 2. This ordinance shall take effect January 1, 1907, and shall continue in force for the period of six months therefrom and no longer.

The dog officer took great interest in the matter and did his best to enforce the law, often meeting with great opposition. During the year he killed the following number of dogs:

January.....	270
February.....	244
March.....	274
April.....	395
May.....	374
June.....	311
July.....	322
August.....	562
September.....	373
October.....	284
November.....	194
December.....	337
<hr/>	
Total.....	3,940

Most of these were unlicensed or stray dogs, but many were licensed dogs killed at the request of their owners who became alarmed at the situation.

During the year 7,465 dog licenses were issued and 118 kennel licenses, the latter providing for 964 dogs.

#### CERTAIN INFECTIOUS DISEASES, CASES AND DEATH.

There were 311 deaths from diarrhoeal diseases in 1906, or 67 more than in the preceding year.

There were no deaths from malarial disease in 1906.

There were 307 deaths from phthisis in 1906, giving the lowest rate ever recorded.

The number of deaths from scarlet fever was 72, more than in any year since 1893.

There have been no deaths from small-pox since 1902.

There were 39 deaths from typhoid fever, 4 more than in 1905.

The number of deaths from diphtheria was 44, or 17 less than in the preceding year. There were also 5 deaths from membranous croup.

#### MEASLES.

Physicians are now required to report this disease, but comparatively few cases are reported, due chiefly to the fact that in measles the doctor is rarely called.

#### TUBERCULOSIS

During the year 50 cases of tuberculosis were reported by the physicians of the city, 2 from the Rhode Island Hospital, 63 from the district nurses, 41 from the patients or their families, and there were reported from the State Board of Health 296 positive results of sputum examination. In all, therefore, 452 living cases of tuberculosis came to the notice of this department during the year. Nearly every one of these was pulmonary. In 1905 there were 318 deaths from pulmonary tuberculosis, but only 239 living cases were reported. In 1906 there were 307 deaths, while as stated above, 452 living cases were reported. This indicates a very gratifying increase in the interest in this subject.

We have very little accurate knowledge of the exact mode in which tuberculosis is transmitted from one to another, of the number of cases of the disease in the city, of the conditions under which tuberculous patients live or under which they contracted the disease, of the number who are taking proper care of themselves, of their sputum, or of the number who need assistance at their homes or in sanatorium or hospital. It has therefore always seemed very important to collect as much information as possible on all these points. During the past year this information has been obtained in various ways. Sometimes the attending physician when requested has been willing to fill in the blank used by this department. Sometimes he has preferred to have the inspector from this office visit the patient. Again in many cases the district nurse has obtained the information. Under these circumstances there must be considerable lack of uniformity in the returns, some questions being answered on one return and some on another. In considerably over one hundred reported cases no statistical material was obtained.

When the reporting of cases of tuberculosis was begun it was my intention among other things to show statistically the danger of the spread of this disease in the family. It was intended to distinguish between blood relations of the patient, and others living in the same household, but the data were not exact enough for that. The following are the facts as obtained:

TABLE VII.

YEAR.	No. of families with only one case.	No. of additional persons in these families.	No. of families with more than one case.	No. of additional persons in these families	No. of these persons attacked.
1903.....	34	..	25	110	38
1904.....	39	211	13	80	18
1905.....	63	331	21	85	31
1906.....	62	159	14	94	29

Besides the above, in which a fairly complete list of the family was obtained, definite information of direct exposure in the family was obtained in 43 other instances in 1906, and denial of such exposure in 29. So that in 1906, in 151 instances in which definite information was obtained as to exposure in the family, in 72 instances it was stated that there had been such exposure. In three of these the exposure was to members of the family, but not blood relations.

Of 123 patients it was stated by the attending physician that they were suitable cases for sanatorium treatment. It is to be doubted, however, in many of these cases whether the physician made a thorough examination, for the experience of examining physicians for sanatoria in this and other cities shows that many cases sent to them as incipient are in reality quite far advanced. This was certainly true of some of the 123 cases mentioned above. Of these 123 persons it was stated that 85 were desirous of sanatorium treatment, but 38 were not, and of the 85, 23 were able to pay and 46 not.

Eighty persons were said to be suitable cases for a hospital for advanced cases. Of these, 27 were desirous of such treatment, of whom 24 were unable to pay.

There were then 112 persons desirous of hospital or sanatorium treatment, of whom 72 were unable to bear the expense. As no reports whatever were received from probably more than half the cases in the city, it is evident that the number of poor persons needing hospital or sanatorium treatment must be very great.

As a matter of fact comparatively few cases can be provided for in hospital or sanatorium with the existing accommodations. They must remain at their homes. It was to help care for these persons that the District Nursing Association determined to provide a nurse who should devote all her time to the care of tuberculous patients. Miss Murray was engaged and began her duties on April 1, 1906. In my opinion this is one of the most important steps that has been taken in this city. It is a necessity from a humanitarian standpoint, and the

educational value of this service is very great. Miss Murray, from the very fact that she brings much needed assistance, can give advice which will be heeded, and is doing a great work in educating our poorer people to properly care for this disease. During the nine months of Miss Murray's service, attention was given to 219 persons on 2,490 visits. These cases were brought to the attention of the district nurse as follows:

From Rhode Island Hospital Clinic.....	123
“ other doctors.....	38
“ Society for Organizing Charity.....	22
“ clergy and other charitable persons.....	15
“ patients and friends of patients.....	9
“ Health Department.....	5
“ Overseer of the Poor.....	5
“ unknown sources.....	2
	<hr/>
	219

Fifty-seven cases received assistance from the Tuberculosis Committee of the Society for Organizing Charity, and \$867.52 was expended.

Of 235 cases of consumption, 218 were said to be taking proper care of their sputum. The state board of health furnishes paper sputum cups and these are distributed through this department.

Of 277 persons with consumption it was stated that 205 were sleeping alone and 72 were not, and that 76 others were sleeping in the same room with other members of the family.

As indicated in a previous report, I do not think post mortem disinfection in this disease is of much value, and have made no effort to have it done by this department. Nevertheless, it has been requested by the physician or family in 51 instances, and done by this department. In 1905, the number disinfected was 38.

Besides measles and phthisis, which have been referred to, physicians are required to report the communicable diseases named below, but sometimes neglect it. The following is the number of cases discovered by the inspector, not reported by the physician, since 1896:

TABLE. VIII.

Year.	Scarlet Fever.	Typhoid Fever.	Diphtheria.
1896.....	6	13	10
1897.....	5	12	6
1898.....	11	33	6
1899.....	2	0	2
1900.....	4	25	7
1901.....	0	21	7
1902.....	4	24	8
1903.....	9	14	13
1904.....	34	14	23
1905.....	3	12	6
1906.....	3	25*	4

\* Eleven of these cases were discovered by the medical inspector while investigating a milk outbreak, and it is probable that some of these, if not all, would have been reported later by the attending physician.

In addition to the above, during 1906, 3 cases of scarlet fever and 1 of diphtheria were discovered by the medical inspector where there was no physician in attendance. The school inspectors also discovered 1 case of scarlet fever and 5 of diphtheria where there was no physician in attendance. Of the 76 cases of small-pox in the last 23 years 23, or 31 per cent. were not under the care of a physician, but were discovered in various other ways.

In the report for 1903, pages 44-49, tables were printed showing the time which elapses between the beginning of the sickness, the first call of the physician, and the visit of the medical inspector.

The following pages are devoted to the consideration of those diseases, the notification of which by physicians is fairly complete:

#### TYPHOID FEVER.

Table IX shows the number of cases and deaths for each month during the last twenty-two years, and the number and ratio of cases and deaths each year during the last twenty-three years. (omitted here.)

In the report for 1903, page 53, was printed a diagram showing the seasonal distribution of typhoid fever by weeks for a number of years.

The State Board of Health offers to examine the blood of typhoid suspects by the Widal test, but of the 236 cases reported during the year only 84 were subjected to the test, 79 of which proved to be positive. There were also 134 other negative tests reported to this department by the State Board of Health from cases not reckoned as typhoid.

Of the typhoid fever reported in the city during the year 1906, 23 cases were probably contracted outside of the city.

In 3 instances there were 3 cases in the same family. In 19 instances there were two cases in the same family, and it is probable that the secondary cases were in each instance due to infection from the first case.

During the latter part of April several cases of typhoid fever were reported among the customers of Wm. C. Bradley, a milk producer in Seekonk. It was also learned that Mr. Bradley's daughter had the disease. On May 4th, Dr. King and I visited the farm and learned that one of the men who worked on the place was sick with "grippe," and had gone to 21 Warren street, in Providence. Later it was learned that he had typhoid fever and a positive Widal reaction was obtained from his blood. At first it was thought that all further infection of the milk was extremely unlikely, and the supply was not stopped, but I shortly became convinced that there was danger in further delivery and it was stopped. In all, there were 18 cases connected with this outbreak, of which 5 were on the farm, and 1 was a consumer of the milk, who lived in East Providence. There were no deaths, though several persons were quite sick. In 7 instances the blood showed a positive Widal reaction. The first case in Providence was April 22d, and the last May 23d. The cases on the farm were Miss Bradley, April 17th; Harrington, a hired man, who probably had his first symptoms at about the same time; Mr. Arthur Bradley, May 16th; Mr. Charles Bradley, June 8th; Miss Pilling, the nurse, June 3d. Several visits were made to the farm, one in company with Dr. Swarts. Specimens of the excreta of all persons on the farm were examined on four occasions, and typhoid bacilli were isolated on the first examination, May 22d, from three persons who were not sick. These examinations were made at the biological laboratory of Brown University by Paul F. Clarke and Philip B. Hadley. Samples of water and milk were examined by Dr. Swarts. The source and exact mode of infection was not determined. There was another case of typhoid fever in Providence, a man who used Bradley's milk and was taken sick March 26th. It is possible that bottles were infected in his house and thus infected the supply at the farm or some one person at the



farm. A more likely theory is that infection was brought to the farm by a Portuguese laborer who had taken care of persons possibly, but not certainly suffering from typhoid.

The Bradleys themselves were the greatest sufferers from this outbreak, and naturally took the greatest interest in discovering the source of the infection and to avoid spreading the disease. Their milk business was given up entirely for several months and was only resumed after arrangements had been made for sterilizing with live steam all vessels used. The Bradleys had about 100 customers.

Another milk outbreak occurred in the summer which is thus reported by Dr. King:

"On the thirty-first of July a number of cases of typhoid were found on a milk route in this city. At this writing typhoid has been reported from twenty-eight households where they were taking milk from this dairy. Fourteen blood specimens have been examined, of which thirteen gave the Widal reaction. The first cases were of young children, who went to bed on the 19th of July, and during the next day or two the first grown person went to bed on the 23d day of July. The dairyman ran two routes, a 'Cranston Street' route and a 'South Providence route.' Almost all the cases were on the South Providence route, and all but one received their milk in bottles. The milk was reported by the milk inspector as standing among the highest by all laboratory tests; no typhoid was found on any of the farms delivering to this dairyman. On the supposition that on the 31st of July it was a case of route infection, or bottle infection, rather than an infection of the milk supply, the man was allowed to continue peddling provided he immediately went to work to install an up-to-date can and bottle sterilizing plant. This, entirely lacking before, was in operation August 13th; in the meantime his utensils were disinfected daily at the department's sterilizing station. His old can-plugs, straining-cloths, and other 'small wares' were destroyed and fresh ones substituted. The public was kept informed through the daily press of the conditions at the dairy. The department did not guarantee the safety of the milk. The dairyman lost much of his trade, but saved a great deal. At this writing no initial case has been reported on this route that did not show prodromal symptoms during July."

In this outbreak there were in all 38 cases in 28 families (three of the cases were in the town of Cranston). There was no death.

There was another series of cases in August connected with another milk route. This dealer furnished about 1,000 quarts daily. There were in all 18 cases in 12 families. All of these were supplied with can milk. None of the dealer's bottle trade, which was much larger than his can trade, was affected.



The farms supplying this milk were all inspected as in the outbreak referred to above, but no trace of typhoid infection was found.

#### DIPHTHERIA.

Besides the cases which were recorded as diphtheria, there were 6 cases of membranous croup and 4 of other forms of laryngeal affection, which came to the knowledge of this department in 1906. All of these, except 1 of the membranous croup cases, resulted in death. It is probable that most of the cases were really diphtheria, and if so reckoned would considerably increase the mortality from that disease. All of the cases of membranous croup were placarded with a membranous croup sign and were treated as if contagious. In none of these cases were any cultures taken.

There were reckoned as diphtheria 123 cases in 101 families, in none of which diphtheria bacilli were found. Some of these were doubtless not diphtheria, but the attending physician reported them as diphtheria, and in 111 of the cases no culture was taken for diagnosis. In the other 12 cases cultures were taken which proved to be negative. Of the 123 cases where no positive cultural results were obtained, several resulted fatally, and doubtless in many the serious condition of the patient and the positive character of the clinical symptoms were reasons for the failure of the physician to take a culture.

There were 84 other cases in which the physician did not consider it necessary to take a culture for diagnosis, but in these cases or in their families diphtheria bacilli were afterwards found. There were thus in all 195 cases of diphtheria in which the attending physician did not avail himself of the aid of bacteriology in making his diagnosis. This was 50 per cent. of all cases. The year before it was 34 per cent.

In 1905 there were examined by the state laboratory 783, by the city 2,108, and by the hospital laboratory 1,951 cultures. Total, 4,842 cultures. Cultures were taken from 81 scarlet fever cases, 18 at their homes and 63 at the hospital. Of the latter, 7 showed diphtheria bacilli, of the former, 1; the others were negative.

Except in Tables XII and XIII, the cases in which the diagnosis depended on clinical signs alone, are reckoned as diphtheria, and are included in the tables. (omitted here.)

The following table shows the cases and deaths from diphtheria for each month for the last twenty-two years, and the ratio of deaths to cases during the last twenty-three years: (Omitted in this report.)

It is interesting and important to know the case fatality at different ages. This can be shown for the past eighteen years, 1889 to 1906, and is as follows:

### DIPHThERIA, CASE FATALITY AT DIFFERENT AGES.

AGES.	1889-1905.			1906.		
	CASES.	DEATHS.	FATALITY.	CASES.	DEATHS.	FATALITY.
Under 1 year.....	151.....	60.....	39.73	11.....	3.....	27.27
1 and under 2.....	357.....	158.....	44.25	24.....	9.....	37.50
2 " " 5.....	1,791.....	480.....	26.80	88.....	17.....	19.31
5 " " 10.....	2,346.....	313.....	13.34	134.....	7.....	5.22
10 " " 15.....	966.....	51.....	5.27	54.....	5.....	9.25
15 " " 20.....	339.....	15.....	4.42	15.....	1.....	6.66
20 and over.....	977.....	26.....	2.66	67.....	1.....	1.49

It is curious that the fatality is less in children under one year of age than between one and two years. The same phenomenon is noticed in scarlet fever and in measles and at present no explanation occurs to me. In all these diseases the fatality rapidly declines after the second year of life.

There has been a very marked decrease in the mortality from diphtheria and it is of interest to know whether this is due to a milder type of the disease, to restrictive measures or to the use of antitoxin. A satisfactory answer to these inquiries is not easy to find for we have had registration of the disease only a little over 20 years, and the culture method of diagnosis by which many more mild cases are recognized, and the use of antitoxin, were introduced at about the same time. Anything which may throw light on our problem ought to be of interest, and it has occurred to me that perhaps the frequency with which more than one death occurs in a family might do this. There has been a very great decrease in the mortality from diphtheria which, as stated above, might be due to a number of causes. There has also been a decrease in the case fatality which also might be apparent, due to a more complete registration of mild cases, or real, due to a milder type of the disease or to better treatment. It would seem that the relative number of plural deaths might indicate whether the decreased fatality is real or apparent. It might be on the other hand that the number of plural deaths might decrease, if it has decreased, because of better isolation in the family, but it is not believed that in Providence there has, during the last dozen years, been any noticeable improvement in isolation. The following shows some changes that have taken place in the frequency of plural deaths:

YEAR.	CASES.	DEATHS.	FATALITY.	RATIO OF PLURAL PLURAL DEATHS TO TOTAL	
				DEATHS.	DEATHS.
1878.....	260.....	260.....	100.00.....	24.....	9.2
1896.....	890.....	125.....	14.07.....	8.....	6.5
1901-1905.....	3,585.....	344.....	10.42.....	8.....	2.0

The year 1878 was the year of maximum mortality, the year 1896 was also an epidemic year and marks the beginning of the employment of cultures and antitoxin, and the last five years which exhibit a quite uniform mortality are combined to give a larger aggregate.

It appears from the above that everything points to very real decrease in the fatality of this disease, which may be due either to a milder type of the disease or to more successful treatment or to both.

The mortality in 1878 was 254 per 100,000 living, in 1896 it was 83, and in the period 1901-1905 it was 36. This is a decrease of about 86 per cent. At the same time the fatality as indicated by the plural deaths has decreased about 79 per cent., which would indicate that the disease prevails nearly as extensively at the present time as it did at its maximum, and that the decreased mortality is due partly to the use of antitoxin and partly to lessened virulence. This inference is merely tentative and may quite likely fail of substantiation when the question is approached in other ways.

It is unquestionably an advantage when diphtheria occurs in a family to remove the well children as speedily as possible in order that they may escape infection. The number of persons thus removed in 1906 was 69, of whom 62 were children. In a number of instances persons go away from home and return in a short time and before the warning sign is removed from the house, and, of course, are occasionally taken sick on their return.

The question of the danger of diphtheria extending to other families in the same house is of great importance and has been considered in previous reports. The following shows the instances in which such infection has taken place. The table includes all cases reckoned as diphtheria whether or not the diagnosis was confirmed by bacteriological findings.

TABLE XIV.

	1889 -95.	1896- 1900.	1901.	1902.	1903.	1904.	1905.	1906.	TOTALS.
Number of additional families with children in the same house...	426	906	215	224	248	379	269	236	2,903
Number of children in these families...	1,116	2,432	591	640	675	1,058	749	703	7,964
Number of these additional families attacked.....	42	57	17	10	23	24	24	13	210
Number of children in these families who were attacked.	53	106	23	14	31	35	39	15	316

From the above table can be readily seen how small is the chance of a second family being attacked in a house where there is diphtheria. Of 2,903 such families only 210, or 7.2 per cent., became infected. Observation has shown that in nearly all of these cases there was known to be direct and often close intercourse between the first and second families infected. In a large proportion of cases the infection probably takes place before the diagnosis is made and before the warning sign is placed on the house. Of the 13 cases of infection of the second family in 1906, 6 were during the first week, 3 in the first two days, 1 in the second week, 3 in the third, and 1 in the ninth week of the initial sickness. One on the 21st day was 3 days after the removal of the warning sign, and the one in the ninth week was 45 days after the removal of the sign. Two of the cases were "return cases," that is, a patient went to the hospital on August 23d and returned home after two negative nose and throat cultures on September 19th. On September 22d a case developed in another family in the house, and on September 24th in still another family.

Of the 13 instances where a second family in the house was attacked, 2 were after the removal of the warning sign, 2 were "return cases," in 5 the nature of disease in the initial case was not recognized, which leaves only 4 instances in which the disease possibly extended to the second family while the warning sign was on the house. In these 4 instances the secondary infection was on the 1st, 2d, 7th, and 7th day after the initial sickness and hence very possibly took place before the nature of the disease was recognized.

Extension from one family to another in the same house rarely, if ever, takes place except among those people who are evidently careless or have little control over their children. This is so evident that I have for years allowed the children from the non-infected families in most instances to attend school. This, however, is not usually permitted until a culture is taken from throat and nose. In 1906, diphtheria bacilli were found in 3 out of 167 of these children.

It must be remembered that in houses with more than one family all usually use the same doors, halls, stairways, cellars, and often the same water closets, and it can be inferred that the danger of infection by means of such things, which is usually assumed to be very considerable, as a matter of fact practically amounts to nothing. There is also shown to be no danger of the disease being air-borne from one family to another. The facts show that if there is no direct intercourse with the infected family there is no danger to another family living in the same house.

#### SCARLET FEVER.

The fatality in scarlet fever was greater in 1906 than in any year since 1889. The increased severity was noticed early in the year, but the disease not then be-

ing prevalent, it excited little comment. Early in the autumn an outbreak began to develop among the Italians, among whom it continued with great severity for several months,—well into 1907. During 1906 there were 384 cases in Italian families, and 203 in the rest of the city. As there are not 20,000 Italians in the city out of a population of over 200,000, it is seen that the incidence of the disease among the Italians was nearly eighteen times as great among the rest of the population. There were 41 Italian deaths, giving a case fatality of 10.6 and 31 other deaths, giving a fatality of 15.1. It is rather surprising to note the lower fatality among the Italians, for on the whole, their cases received less prompt care than did others. During the latter part of November the outbreak began to extend to all parts of the city. There are three well-defined Italian colonies in the city. One of them suffered very little, another was not invaded for nearly two months, and the larger part of the cases were confined to the principal colony on Federal Hill.

The following shows the case fatality by ages in scarlet fever during the nineteen years, 1887–1906:

AGES.	1887–1906.			1906		
	CASES.	DEATHS.	FATALITY.	CASES.	DEATHS.	FATALITY.
Under 1 year.....	215.....	39.....	18.13	13.....	3.....	23.07
1 and under 2.....	413.....	100.....	24.21	36.....	11.....	30.55
2 " " 5.....	2,454.....	280.....	11.40	166.....	32.....	19.27
5 " " 10.....	4,014.....	216.....	5.38	227.....	16.....	7.04
10 " " 15.....	1,419.....	44.....	3.10	86.....	5.....	5.81
15 " " 20.....	439.....	17.....	3.87	18.....	2.....	11.11
Adults.....	514.....	23.....	4.47	41.....	5.....	12.19

As in diphtheria, the fatality among children under one year of age is less than among children between one and two. Scarlet fever is a disease which is supposed to vary greatly in virulence, and the table on the preceding page would seem to indicate that this is true, for the apparent fatality fell from 21.88 in 1888 to 1.24 in 1898. The generally low fatality of this disease during the last few years in almost all parts of this country and of England has been often remarked. I have had an impression that this was partially at least apparent only. It has seemed to me that quite likely mild cases of the disease are recognized much oftener than formerly, and that this may account in part for the low fatality. It also occurred to me that the virulence of the disease ought to be roughly indicated by the frequency with which more than one death occurred in a single family, and if so the virulence of the disease in the years before the registration of the cases could be determined. It might be that the number of children in the families attacked might vary from time to time, or the success of treatment, or efficiency of isolation, thus affecting the number of plural deaths as they



might be called. But on the whole it seemed likely that these factors would not entirely mask the variation of the virulence of the disease if it varied in any marked degree as is claimed. In order to test the value of "plural deaths, as an index of virulence, I have compared four epidemic years in which the number of deaths was perhaps large enough to permit the comparison to be of value.

YEAR.	CASES.	DEATHS.	FATALITY.	RATIO OF PLURAL PLURAL DEATHS TO TOTAL DEATHS.	
				DEATHS.	DEATHS.
1856.....		144.....		13.....	9.0
1887.....	848.....	153.....	18.04.....	13.....	8.5
1896.....	588.....	33.....	5.66.....	2.....	6.0
1904.....	1,220.....	43.....	3.52.....	2.....	4.7
1906.....	615.....	74.....	12.03.....	8.....	10.8

It would appear from the above that there is no very close relation between the apparent fatality and the proportion of plural deaths to total deaths. I imagine, however, the relation is somewhat closer than appears. I know from personal observation that cases were not as well reported in 1887 as in later years, and consequently the true fatality was somewhat lower than the recorded fatality.

It is of great interest to know whether the precautions taken at the present time have really lessened the prevalence of the disease. As there was no registration before precautionary measures were adopted, it is impossible to use case incidence for comparison. As the virulence of the disease has believed to have varied within wide limits, it is impossible to make use of mortality figures for comparison unless it can be determined to what extent the virulence has varied. We can perhaps get some idea from the frequency of plural deaths. The year 1856 showed the highest mortality from this disease. The number of deaths was 144 or 293 per 100,000 living, while in 1887 the rate was 125, and in 1906 it was 36. On the face of it it appears that there has been a very decided decrease in the prevalence of scarlet fever during the last fifty years. The decrease, however, in deaths might be accounted for by a decreased fatality, but if we note the number of plural deaths it is seen that they did not vary much in the three epidemic years under consideration, hence we may assume that the virulence of the disease and its consequent fatality did not vary very much. It therefore seems probable that scarlet fever has really decreased in amount during the last fifty years about as indicated in the mortality figures.

There were 26 instances in 1906 in which scarlet fever extended from one family to another in the same house. As there were 389 additional families containing 1,199 susceptible children living in the same house with the family first infected, this was 6.6 per cent., a little less than in the preceding year. But of the

26 secondary infections, 23 were in Italian families, and as the number of cases of scarlet fever among the Italians was 384, and in the rest of the population 203, it can be seen that secondary infections were very much more common among the Italians. This is not to be wondered at, as many of the Italians were very ignorant and moreover lived in crowded tenements where it was almost impossible to keep the children apart, and where many light cases remained unrecognized. Of the 26 secondary infections, 7 were after the removal of the warning sign from the initial case and have been considered on page 20. Of the 19 instances in which the secondary infection developed while the placard was on the house 10 were during the first week, 3 in the second week, 1 in the third, 1 in the fourth, 2 in the fifth, 1 in the sixth, and 1 in the seventh week.

As in diphtheria, so in scarlet fever, it is of advantage to remove the well children in the family at the earliest possible moment. During the year 1906 there were removed from infected families 81 well persons, of whom 73 were children. None of these had previously had scarlet fever. Of the total number removed, 2 contracted the disease while away, as follows: one went away on the second day of the sickness and was taken sick 7 days later, and the other was removed on the ninth day and was sick the next day. One child went away on the second day and returned 31 days later, the day of disinfection, and was taken sick the next day.

During the past twenty years there have been removed from families where there was scarlet fever 1,539 persons, of whom 123 were adults, and none of whom had had the disease. Of these, 1,539 persons, 71 were attacked while away and 25 on their return home. This subject is discussed more fully in the report for 1903, pages 99 and 100.

#### CEREBRO-SPINAL MENINGITIS.

This disease has been very irregular in its appearance in Providence, as indeed it has everywhere, and it has never prevailed as extensively here as it has in many other places. There has been during the past few years considerable outbreaks in several cities and towns in neighboring states, but we have not had an exceptional amount here since 1898 until 1905. The following table shows the number of deaths each year since 1894.

1894.....	7
1895.....	7
1896.....	7
1897.....	7
1898.....	34



1899 .....	14
1900 .....	14
1901 .....	14
1902 .....	10
1903 .....	11
1904 .....	11
1905 .....	36
1906 .....	41

Notwithstanding the fact that there were 5 more deaths from this disease than in the preceding year, there was little public interest in it, as the newspapers happened to be occupied with other matters. Scarcely any cases were reported by physicians before death, while in 1905 the number was very considerable.

The contagiousness of this disease has been much discussed and evidence of it sought in the frequency with which more than one case occurs in a family. The experience in other cities has been that the infection of more than one person in a family rarely occurs, perhaps no more often than it does in pneumonia. In Providence, in 1905, there were certainly two instances in which there were two cases in one family, but none were reported in 1906.

#### SMALL-POX.

The following table (omitted here) shows the number of cases and deaths for each month, and the number of cases and deaths and the case fatality each year during the last twenty-three years:

In 1906 there was only one case of small-pox reported in Providence. The patient was a colored man, aged 30, living at 87 Bates street, and employed on the elevator at The Shepard Co.'s department store. He was taken sick March 24th, though he managed to work all day. The case was reported by the attending physician March 28th, and was removed to Field's Point Hospital the next morning. As his wife had been greatly exposed and desired to go with him, she was permitted to do so. The patient was supposed to have been vaccinated in childhood in Washington, D. C., as he went to school in that city, but he had no recollection of the operation, and there was no cicatrix. His case pursued a normal course and he was discharged on May 7th. There was no evidence that the man's wife had been previously vaccinated, and she was vaccinated twice on March 28th. The vaccination took and she did not contract small-pox. At first it was arranged that she should nurse her husband, a cook being provided by the city, but after a day or two it was found necessary to employ a trained nurse. There was another family in the house and several friends had visited

the patient, but no other cases were known to have developed. Vaccination was offered the employees of the department store, but only a small number availed themselves of the opportunity.

On March 21st a case of small-pox was reported in Pawtucket. The man worked in a jewelry establishment in Providence, and was at his bench while the disease was in the eruptive stage.

On April 9th another Pawtucket man, working in another jewelry establishment, was taken sick with small-pox.

Practically all the employers and employees in both establishments were vaccinated and were kept under observation for sixteen days.

Five other cases of suspected small-pox were reported to the department, four of which proved to be varicella and one syphilis. The cost of the small-pox case in 1906 was \$441.10.

#### CONTAGIOUS DISEASE HOSPITAL.

In 1891 the Rhode Island Hospital began to receive a few scarlet fever and diphtheria patients in the "Russell Ward." In 1896 the city built a ward on the hospital grounds for the care of such patients as should be sent there by this department. The ward is maintained by the Rhode Island Hospital, and the city pays \$15 per week for every patient sent to the hospital by this department.

The various steps which have been taken during the last two years by the city government to secure better facilities for the treatment of persons sick with contagious disease were touched upon in my last report. Last year, on the 6th of February, an ordinance was approved appointing a committee consisting of the mayor, the president of the board of aldermen, and the president of the common council, with full power to purchase a site for such a hospital, and on July 30th a deed was executed for about 25 acres, admirably situated for the purpose on Eaton street, about ten minutes' drive from the centre of the city. On the death of Mayor Dyer, Mr. Henry Fletcher, of the common council, was elected to fill his place, so that the committee which has now been made permanent consists of William K. Reynolds, Joseph Balch and Henry Fletcher.

Early in the autumn it was decided to advertise for competitive plans for the hospital and the services of Prof. F. C. Chandler of the Massachusetts Institute of Technology was secured as advising architect. Plans were advertised for and they were presented by February 11, 1907.

Owing to the excessive prevalence of scarlet fever in the early winter, the contagious wards at the Rhode Island Hospital became entirely inadequate. The first hospital committee which was appointed foresaw this contingency and advised the erection of a temporary wooden structure. But it seemed to me that there

would be time enough to erect our permanent hospital before there was likely to be another serious outbreak, and indeed the hospital would have been erected if the committee had been able to secure a site. At all events we were without sufficient hospital accommodations towards the end of December. The Rhode Island Hospital and the board of aldermen both acted very promptly. At a special meeting of the board held at the call of Acting Mayor Reynolds at noon on December 30th, it was voted that \$3,500 be appropriated for the Rhode Island Hospital to build and equip a temporary ward to accommodate thirty patients. Work was begun within an hour and the ward was ready for use on January 12th. It was substantially built of two-inch plank, covered with paper, sheathed with weather boards, and fitted with bathroom, steam heat and electric lights. The total cost was \$3,808.75, the excess of \$308.75 over the appropriation being borne by the hospital.

During the year there were removed to the hospital under my direction 213 cases, and the total expense to the city for caring for them was \$10,113.74. Table XIX shows the number of cases admitted since the hospital was opened, and also the number of deaths that occurred in the hospital, and the amount paid for the care of the patients. This table only includes patients from Providence. It does not include cases which were brought in from outside the city or cases which developed in the hospital. These are referred to below. Before 1903 there might have been a very few cases of mixed infection admitted, but they were very few, if any, and were doubtless tabulated as either scarlet fever or diphtheria. Occasionally cases are sent to the hospital as scarlet fever, diphtheria, or measles, but which do not prove to be such, and are after a few days discharged. These cases were not noted in reports previous to 1904.

It is of interest and value to know the time during which the patients remain in the hospital. This is important for the study of the duration of the infectious period, or the occurrence of "return cases." It is also of interest when considering the cost of maintenance of the hospital. The following table (omitted) shows the stay in the hospital of the scarlet fever and diphtheria cases for the three years, 1903-6. This table does not include the cases of mixed infection, the cases which originated in the hospital, or the cases which originated out of the city.

The average stay in the hospital of all the above cases was 19.2 days for diphtheria, and 40.8 days for scarlet fever.

The foregoing includes all cases whether the patients died or were discharged cured. Of the living cases the time in the hospital was for diphtheria, 21.6 days, and for scarlet fever, 45.2 days. The time for the cases that died was for diphtheria, 6.5 days, and for scarlet fever, 6.1 days.

From the above table it can be readily seen that the stay of the scarlet fever patients in the hospital is more than twice as long as the stay of the diphtheria

patients. The former remain in the hospital until two successive negative cultures are obtained from throat and nose, yet nearly sixty-three per cent. are discharged before the end of the third week. In scarlet fever the patients remain at least four weeks and until recently until desquamation has ceased. Of late a few cases have been discharged while desquamating slightly. About 77 per cent. of the scarlet fever cases remain in the hospital over five weeks, while by that time 85 per cent. of the diphtheria cases have been discharged. Nevertheless, isolation is more effective in diphtheria than in scarlet fever if the reinfection of the family after the return of the patient is any criterion, as I think it is. During the time that the hospital has been in operation, 629 cases of scarlet fever have been treated there. Return cases have developed 22 times, or in 3.5 per cent. of the cases. The number of diphtheria cases treated at the hospital has been 1,094. Return cases developed in 16 or 1.5 per cent. of the cases. So that although the scarlet fever cases remain in the hospital more than twice as long as the diphtheria cases they are more than twice as likely to carry infection to their homes. It is believed that these excellent results in diphtheria are due to the rule which has been followed almost from the first, of requiring two negative cultures from both throat and nose. This is not an absolute safeguard, as is shown by results here and elsewhere, for the discharged patients have at times been shown to be infected even after the negative cultures have been obtained. But this is a reliable criterion in the large majority of cases as shown both by subsequent cultures and by clinical evidence. If cultures are not relied upon for deciding the time of discharge, an arbitrary limit must be fixed. Usually when this is done the public is given the benefit of the doubt rather than the patient, and the duration of the stay in the hospital is from 5 to 7 weeks.

The following table (omitted) shows the amount of protection afforded the other members of the family when a person sick with scarlet fever or diphtheria is removed to the hospital.

One object in removing to the hospital persons sick with scarlet fever or diphtheria is to protect those who remain at home. How much protection is secured in this way was discussed in my report for 1903, pages 23 to 29.

In 1906, scarlet fever patients were removed to the hospital from 62 families in which remained 251 susceptible persons, of whom 118 were under 21 years of age. Of those left behind, 9 were attacked, 2 on the 1st day, and 1 each on the 2nd, 3d, 6th, 7th, 8th, 13th and 17th day after removal. The ages of those attacked were 2 months, 17 months, 2, 2, 3, 5, 4, years, 17 months, and 4 years respectively. The 9 cases were at the rate of 1 in 13.1 persons exposed. If removal to the hospital had not taken place, a rate of attack of 1 in 6.5 might have been expected.

In diphtheria, patients were removed to the hospital from 71 families, in which there remained 317 persons, of whom 157 were under 21 years of age. Of those left behind, 14 were attacked, one on the day of removal, 2 on the 2d day, 2 on the 3d, 4 on the 4th, and 1 each on the 5th, 8th, 9th, 18th, and 2 on the 22d day. Of these cases two were adults. These 14 cases were at the rate of 1 in 22.7 persons exposed. If removal to a hospital had not taken place, a rate of attack of about 1 in 12.8 might have been expected, or, taking into account merely the persons under 21 years of age, the number attacked was 12, or 1 in 13, while the number to be expected if there had been no removal to the hospital would have been 1 in 7.7, or about 20.

In the preceding paragraphs "return cases" have not been taken into account. By return cases is usually meant those cases which develop in a family after the return of a patient who has been removed to the hospital, and which are presumably due to the return. The consideration of these cases is important as throwing light on the duration of infectivity.

In 1906 there was only 1 instance in which scarlet fever infection came from the return of a case from the hospital.

#### EXPENSES OF THE HEALTH DEPARTMENT.

The appropriation for the year ending September 30, 1906, was \$65,000. The expenditures were \$59,102.11, leaving a balance of \$5,897.89 to be turned into the general fund.

The expenses in detail were as follows:

Salary of Superintendent of Health.....		\$2,000 00
Collection and removal of garbage.....	\$27,590 04	
Salary of Sanitary Inspectors.....	1,451 00	
Pay of man on dump.....	468 00	
Miscellaneous Nuisance Expenses.....	112 36	
	<hr/>	29,621 40
Small pox.....	\$456 10	
Board of other communicable diseases at the Rhode Island Hospital.....	10,051 14	
Miscellaneous expense of communicable disease.....	93 94	
Salary of Medical Inspectors.....	1,542 00	
Vaccination.....	1,004 15	



Disinfection.....	\$1,016 10	
Quarantine.....	76 00	
Laboratory.....	504 86	
	<hr/>	\$14,744 29
Salary of School Inspectors.....	\$1,300 00	
Other School Inspection expenses.....	17 61	
	<hr/>	1,317 61
Collecting returns of births, marriages and deaths...	2,702 65	
Recording returns of births, marriages and deaths...	2,521 00	
	<hr/>	5,256 32
Rabies.....		855 87
Horses, wagons, buggy and ambulance.....	\$1,885 26	
Inspector of Provisions.....	1,200 00	
Clerk Hire.....	810 00	
Telephones.....	188 61	
Printing.....	346 95	
Postage.....	320 30	
Office Supplies.....	417 12	
Car fare.....	85 00	
Binding.....	47 98	
Miscellaneous expenses.....	5 40	
	<hr/>	5,306 62
Total.....		<hr/> \$59,102 11

(Signed)

CHARLES V. CHAPIN,

*Superintendent of Health.*

## SCITUATE.

## REPORT OF HENRY H. POTTER, TOWN CLERK.

6 William H. Bowen, Jr., M. D., is the health officer.

8. Undertakers have made more prompt returns of deaths than in former years.

No report from the health officer.

## SMITHFIELD.

## REPORT OF OSCAR A. TOBEY, TOWN CLERK.

4. (Nuisance and contagious disease ordinances, report of 1894, p. 48.)

6. Jenckes Smith is the health officer.

No report from the health officer.



## WOONSOCKET.

## REPORT OF WILLIAM C. MASON, CITY CLERK.

2. Practically all of the population of this city is supplied by the public water service. (Also see extracts from Water Commissioners' report below.)

3. The aggregate length of sewers in this city is twenty and forty-four hundredths miles, and fully one-half the population is connected therewith. (Also see extracts from City Engineer's report below.)

5. This city has no legal board of health other than the board of aldermen.

6. William C. Munroe, M. D., is the health officer.

## REPORT OF WILLIAM C. MUNROE, M. D., HEALTH OFFICER.

4. Isolation was maintained.

5. All of the sick were isolated.

6. Inspections of premises where sickness prevailed were made, but nothing unusual could be found.

7. Constant sanitary inspections were made every day in the year.

9. All public nuisances and unsanitary premises are reported to the city council.

THE FOLLOWING IS EXTRACTED FROM THE REPORT OF THE WATER COMMISSIONERS, (YEAR ENDING NOVEMBER 30, 1906):—

COST OF WATER WORKS ANNUALLY, FROM APRIL 1, 1885 TO NOVEMBER 30, 1906.

Purchase price of works, April 1, 1885.....	\$289,612 62
Expense for construction for year ending April 30, 1886.....	24,880 78
For the year ending April 30, 1887.....	21,431 59
For the ending April 30, 1888.....	20,462 00
For eight months ending December 31, 1888.....	12,422 55
For eleven months ending November 30, 1889.....	21,554 42
For the year ending November 30, 1890.....	16,646 81
For the year ending November 30, 1891.....	41,340 21
For the year ending November 30, 1892.....	93,722 29
For the year ending November 30, 1893.....	13,486 68
For the year ending November 30, 1894.....	31,389 85
For the year ending November 30, 1895.....	57,194 46
For the year ending November 30, 1896.....	33,838 70
For the year ending November 30, 1897.....	16,578 97

For the year ending November 30, 1898.....	\$13,002 93
For the year ending November 30, 1899.....	12,575 09
For the year ending November 30, 1900.....	9,217 47
For the year ending November 30, 1901.....	10,572 67
For the year ending November 30, 1902.....	22,024 16
For the year ending November 30, 1903.....	15,889 94
For the year ending November 30, 1904.....	15,522 98
For the year ending November 30, 1905.....	25,795 76
For the year ending November 30, 1906.....	155,973 17
<hr/>	
Total, November 30, 1906.....	\$975,136 10

As evidence of the continued growth of our city and of the prosperity of the water works, we note an increased revenue of \$2,629.20 over that of the preceding year. The considerable increase in annual cost is due to the charging to the department of the amount expended in acquiring the Crook Fall Brook water right, the expenditure being shown in the construction account.

The Board realizes the high importance of safeguarding the quality of the water supplied, and it is to be regretted that the City does not own a larger part of the area of the water-shed, particularly some of the smaller farms lying along the brook, between the pumping station and the storage reservoir. We believe that every opportunity to acquire any land on the water-shed should be promptly improved and that money so expended will be wisely invested. Scientific investigation of the cause of disease and experiments in determining the means of its spread have resulted in a greatly reduced death rate in many of our cities, and show that no effort should be spared to protect the quality of the public water supply and that painstaking vigilance, in even the smallest item of sanitation, is incumbent upon all officials concerned. It is an established fact that typhoid fever is a disease readily transmitted by water, and the knowledge that the cause of infection may be of apparently insignificant proportions warns us that the chance of contamination of our own supply increases each year, and that additional care is necessary in watching cultivated portions of our water-shed.

Additional storage capacity in pressure tanks will be required within a few years, as our maximum twenty-four-hour consumption during the past summer was one million seven hundred fifty thousand gallons, and the combined contents of tanks is but about two hundred thousand gallons in excess.

The following is extracted from the report of E. W. Kent, Superintendent of the Water Department:

The usual high standard of quality of the water has been maintained through the year, which is, in part, due to the fact that none of the trouble from the growth of disagreeable vegetable organisms, common in the water of some other systems, has been experienced here; and, in part, to vigilant watch of the grounds in the immediate vicinity of reservoir No. 3 and of the brook below, to guard against danger of contamination. This duty has become more important, as the opening of the line of electric railway through the water-shed brings an increased number of pleasure seekers and fishermen to the vicinity. Many of these are unmindful of the fact that the reservoir, the brook, and its tributaries are all a part of the drinking-water supply for the city, to preserve the purity of which the most minute care is essential. Others are wilfully disobedient of the rules of sanitation, and such offenders are summarily dealt with.

### SUMMARY OF STATISTICS

For the year ending November 30, 1906.

IN FORM RECOMMENDED BY THE NEW ENGLAND WATER WORKS ASSOCIATION.

### WOONSOCKET WATER WORKS.

City of Woonsocket, County of Providence, State of Rhode Island:

#### GENERAL STATISTICS.

Population by Census of 1905, 32,196.

Date of construction, 1884.

By whom owned, City of Woonsocket, R. I.

Source of supply, Crook Fall Brook.

Mode of supply, pumping.

#### BUILDERS OF TANKS.

No. 1.	Cunningham Iron Works, 30 ft. high, 50 ft. diameter.....	442,780 gallons
No. 2.	Porter Manufacturing Co., 35 ft. high, 50 ft. diameter.....	515,310 gallons
No. 3.	E. Hodge & Co., 30 ft. high, 76 ft. diameter.....	1,020,705 gallons
Total capacity.....		1,978,795 gallons

## STATISTICS OF CONSUMPTION OF WATER.

1. Estimated total population at date.....	36,957
2. Estimated population on lines of pipe.....	37,457
3. Estimated population supplied.....	36,957
4. Total consumption for the year, gallons.....	446,420,731
5. Passed through meters, gallons.....	326,048,066
6. Percentage of consumption metered.....	71.6
7. Average daily consumption, gallons.....	1,223,070
8. Gallons per day to each inhabitant.....	33
9. Gallons per day to each consumer.....	33
10. Gallons per day to each tap.....	419

(Percentage of services metered, 86 per cent.)

11. Cost of supplying water, per million gallons, figured on total maintenance (item CC), \$37.59.

THE FOLLOWING IS EXTRACTED FROM THE REPORT OF CITY ENGINEER FRANK H. MILLS, (YEAR ENDING NOVEMBER 30, 1906):—

## FILTER BEDS.

Plans, specifications and contract were prepared for a new Filter Bed at the East Filter Field. On May 18th, bids were received by the Board of Sewer Commissioners and on May 16th the contract was awarded to the Globe Coal Co. Work progressed very slowly and was completed about December 1st.

The amount of sewage is increasing very fast and its character is growing heavier, more beds are needed and the construction of a new one should be started at once. The building of additional filter beds must be continued if the proper care of the sewage is to be maintained.

The analysis of the sewage and effluent \*show the work done by the beds. Mr. Gardner T. Swarts, Secretary of the State Board of Health says: "The effluent has generally a decided turbidity and very little or no sediment and can be called a satisfactory effluent for introduction into a stream. The analysis of the effluent is low in nitrogenous and carbonaceous matter as measured by albuminoid ammonia and oxygen tests, when compared with the same tests of the raw sewage. The effluent is invariably high in nitrites and has a fair nitrate content as a rule, which constituents are desirable as preventing putrefaction when the same is introduced into a stream. Taken as a whole, it may be

\* See tables under "Examination of Raw and Treated Sewages" in latter part of this Report.

said that the plant has done satisfactory work for the year during the time when it has been in operation."

By the above, from Mr. Swarts' communication and the table, the result has not been as good as last year.

The percentage of removal as shown by the yearly averages, December 1905—November, 1906 are:

Free Ammonia.....	36.5 p. c.
Total Albuminoid.....	84.4 p. c.
Carbonaceous Matter as shown by Oxygen consumed.....	83.0 p. c.

## WASHINGTON COUNTY.

### CHARLESTOWN.

#### REPORT OF GEORGE C. CROSS, TOWN CLERK.

4. No new sanitary ordinances were enacted during the year. The existing ones are well enforced. (Contagious disease ordinances, report of 1900, p. 56.)

6. Milton Duckworth, M. D., is the health officer.

#### REPORT OF MILTON DUCKWORTH, M. D., HEALTH OFFICER.

3. Whooping cough was prevalent during the latter part of the year in the villages of Carolina, Kenyon, and Shannock, there being about one hundred cases of this disease, none of which, however, were fatal.

4. Isolation was maintained.

9. All public nuisances, unsanitary premises, etc., are reported to the town council.

### EXETER.

#### REPORT OF JOHN H. EDWARDS, TOWN CLERK.

6. This town has no health officer.

8. Undertakers are not prompt in making returns of deaths.

No health officer to report.

## HOPKINTON.

## REPORT OF EDWIN R. ALLEN, TOWN CLERK.

4. (Contagious disease ordinances, report of 1894, p. 59.)
6. Daniel E. Blake is the health officer.

## REPORT OF DANIEL E. BLAKE, HEALTH OFFICER.

4. Isolation was maintained.
9. All public nuisances, unsanitary premises, etc., unless corrected upon notification, are reported to the town council.

## NARRAGANSETT.

## REPORT OF W. HERBERT CASWELL, TOWN CLERK.

3. The aggregate length of sewers in this town and the proportion of the population connected therewith is practically the same as during the previous year.
  4. (Ordinance relating to sewers, report of 1901, p. 47.)
  6. Samuel T. Smith is the health officer.
  8. Undertakers have not made prompt returns of deaths.
- No report from the health officer.

## NORTH KINGSTOWN.

## REPORT OF THOMAS J. PEIRCE, TOWN CLERK.

4. (Nuisance and contagious disease ordinances, report of 1896, p. 60 )
6. Dr. Harold Metcalf is the health officer.

## REPORT OF HAROLD METCALF, M. D., HEALTH OFFICER.

3. Dysentery was prevalent in the village of Lafayette during the month of October, there being eleven cases of this disease, with three deaths.
4. Isolation was maintained.
5. In the above cases four cases in one family (one fatal) were quarantined.
6. Inspections of premises where sickness prevailed were made.
7. Sanitary inspections made during the year were at my own option.
9. All public nuisances, unsanitary premises, etc., are reported to the town council.



## RICHMOND.

## REPORT OF HALSEY P. CLARKE, TOWN CLERK.

4. (Contagious disease and nuisance ordinance, report of 1894, p. 61.)
6. Charles A. Fuller is the health officer.
9. Clergymen do not make returns of marriages promptly.

## REPORT OF C. A. FULLER, HEALTH OFFICER.

No answers showing any sickness, isolation, inspection, etc.

## SOUTH KINGSTOWN.

## REPORT OF HOWARD B. PERRY, TOWN CLERK.

4. (Nuisance ordinance, report of 1903, p. 52; contagious disease ordinance, report of 1896, p. 64.)
6. William H. Leslie is the health officer.

## REPORT OF WILLIAM H. LESLIE, HEALTH OFFICER. (Since June, 1906.)

3. There were no epidemics in this town during the year. Whooping cough was quite prevalent during the latter part of the year.
4. Isolation was maintained.
5. All cases of diphtheria and scarlet fever were isolated.
6. In one case where diphtheria, scarlet fever and typhoid fever broke out in the same family, sanitary conditions were inspected and completely changed.
7. I attended to all complaints made, including water-closets, dumps, keeping of swine, etc., and had the nuisances abated.
9. All public nuisances, unsanitary premises, etc., are reported to the town council.

## WESTERLY.

No reply from the town clerk.  
(Health ordinances, report of 1904, p. 63.)

## REPORT OF JOHN A. FARRELL, HEALTH OFFICER.

6. Inspections of premises where sickness prevailed were made.
7. Sanitary inspections were made during the year.

8. The only unhealthy place known is that part of the town called Stillmanville. This is caused by stagnant water. In my opinion, the same can be remedied by an expenditure of money.

9. Public nuisances, unsanitary premises, etc., are not reported to the town council.

EXTRACTS FROM THE REPORTS OF THE WATER COMMISSIONERS AND THE SUPER-  
INTENDENT OF THE DEPARTMENT (YEAR ENDING April 30, 1906):—

The usual monthly analyses of the water have been made by the State Board of Health, and the reports received show that the customary excellent quality of the water has been maintained during the year.

The largest daily average was during the month of July, 864,940 gallons, and the smallest during the month of February, 645,400 gallons.

The increase in pumpage over last year has been 9,631,800 gallons, an average daily increase of 26,390 gallons.

### SUMMARY OF STATISTICS.

FOR THE YEAR ENDING APRIL 30, 1906.

In form recommended by the New England Water Works Association.

Westerly	Washington	Rhode Island
(Town)	(County)	(State)

### GENERAL STATISTICS.

Date of construction, 1886-1887.

By whom owned, Town of Westerly.

Source of supply, driven wells.

Mode of supply, pumping.

Builder of pumping machinery, Henry R. Worthington.

### STATISTICS OF CONSUMPTION OF WATER.

1. Estimated total population at date, 13,500.
2. Estimated population on lines of pipe, 12,000.
3. Estimated population supplied, 11,000.
4. Total consumption for the year, 260,589,200 gallons.

7. Average daily consumption, 713,940 gallons.
8. Gallons per day to each inhabitant, 59.
9. Gallons per day to each consumer, 65.
10. Gallons per day to each tap, 449.
11. Cost of supplying water, per million gallons, figured on total maintenance (item CC.), \$39.71.
12. Total cost of supplying water, per million gallons, figured on total maintenance, plus interest on bonds, \$91.04.

(Percentage of service metered, 83 per cent.)

## EXAMINATION OF WATER SUPPLIES.

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Since 1894 the Board had made monthly analyses of the water supply of the city of Providence, which is taken from the Pawtuxet river.

The samples have been taken at three different points:—at the Pettaconset pumping station; at Washington village, on the south branch, at a point above any known source of contamination; and at the village of Hope, on the north branch of the river, above any possible source of contamination from villages, residences, or manufacturers. A sample is also taken from a tap in the laboratory of the State Board of Health in Providence. These examinations are now made twice every month on the second and fourth Wednesdays. These reports have been of considerable service in determining the quality of the supply at various points, and permitting of comparison of the waters and the possibility of pollution at any point between the sources of supply and the intake.

At a time when the question arose as to the necessity of filtering the supply before serving it to the city, a proposal that it might be more desirable to take the supply direct from reservoirs to be constructed on one of the branches of the river above possible sources of pollution was presented. Owing to the distance of the heads of the river, however, and to the probable excessive cost of acquiring control of the water-shed, the proposition of obtaining a supply from the upper branches was dropped.

By reference to the published results of these examinations, it is determined that a vast amount of contamination entered the water between the sampling points on the two branches and the intake or pumping station. This contamination comes largely from the surface drainage from fields and villages along the stream, and from the

large amount of sediment which has accumulated in the bed of the river, which has been introduced as mill-wastes from the mills along the banks of the stream. While the stream is running evenly the sediment is caught in the various reservoirs at the dams connected with the several industries along the banks of the stream. As soon as a mill starts up a rush of water follows, stirring up and carrying along the sediment which was lying in the shallow stream. This mixture is received at the pumping station, giving a polluted water.

An examination of this water supply has been obtained by the engineer's department of the city of Providence for many years, one sample being taken on the first and fifteenth of every month. The averages of these examinations through 1901 will be found in the report of this Board for 1901.

The averages on samples examined by this Board during the years 1902-1906 are given in this report in conjunction with the detailed analyses for 1906. The data for years previous to these may be found in the reports for the respective years. The 1904 report contains the averages for 1900-1904, or since the establishment of the Board's laboratory.

After many years of agitation it was finally concluded that it would be desirable and that it was necessary to filter this supply. The river formed by the two branches flows through densely populated mill villages, representing a population of perhaps 15,000 inhabitants. None of these villages has a sewerage system. The surface wash of streets and of some stables, hen yards, etc., flow directly into the stream.

Many of the dwellings and all of the mills, of which there are many, are situated on the banks of the stream, and are liable to be a source of direct and at times dangerous pollution by the dumping of refuse matter into the stream as a quick means of disposing of the same.

The intake at the pumping station is located about eight miles below the beginning of this long line of possible pollution.

That filtration of this supply was desirable was shown by the outbreak of two epidemics of typhoid fever, one in 1882 and the other in 1888, which were directly traceable to the water supply.

In the latter epidemic it was discovered that the attendants upon a case of typhoid fever which existed in a cottage on the banks of the stream at Natick had utilized the river for a dumping place to quickly dispose of the fœcal matter of the patient. Within fourteen days from the commencement of this procedure an epidemic started in the city of Providence and over 250 cases were reported.

Agitation as to the need of filtration of this supply commenced shortly; after this the question received attention at intervals until 1902, when after rejecting the recommendation of a committee that a mechanical filter plant be installed, a contract was awarded for the erection of 6 uncovered beds of the slow sand filtration type. The conclusion was reached after a noted expert on filtration had approved the plan submitted by the Engineering Department of the city of Providence which assumed that shallow water in uncovered filter beds would not freeze.

Construction was commenced in 1902 and it was estimated that the six beds would be sufficient to give the proper filtering area and provide for the loss of use of a certain number of beds during the process of cleaning. Since the original contract was made two new contracts have been entered into, the first calling for two new beds and the last for two more beds making ten in all, and for covers for all the beds.

Water was pumped onto the first completed bed November 6, 1905, over three years after the contract was let, and on to the last of the six beds about the middle of December, from which time the city of Providence has been supplied with filtered water.

The area of the beds is sufficient to meet the demands of the consumption of the city, and if the beds are not thrown out of use on account of being frozen over, the city of Providence can feel assured against any danger reaching the consumers through its water supply.

The results obtained on the sample of water taken for analysis from a tap in the city show that this year the figures have been very satisfactory and the filtration efficiency as shown by comparison of the results obtained on raw and filtered water has been up to the standard of good plants almost all the year.



The trouble from "algae" in Hope reservoir mentioned in the first part of this report has been the cause of considerable complaint and has made a large number of people unjustly suspicious of the otherwise good water.

While the supply of the city of Providence is the largest and most important of any in the State, inasmuch as it supplies the largest population, it was believed by the Board that it was equally important that all potable public water supplies in the State should be examined periodically, first to determine their fitness for a drinking-water, and, second, to be posted as to any change which might take place in the character of the water at any time and especially in the presence of an epidemic of any water-borne disease, as the Board would be in a position to determine if any deterioration in the character of the water had occurred at the time and if it might have any influence in the production of the epidemic.

Accordingly, since 1900, chemical and bacteriological examinations of all the public water supplies have been made monthly, and in the case of the Providence supply, twice a month. These were found to vary in quality from what might be considered as perfect, to a condition which indicated that the continued use of the water might at any time be dangerous to the health of the consumers.

The information thus obtained indicated that one supply, that of East Providence, ought to receive immediate attention, and purification of this supply was secured by means of mechanical filtration. The studies of this process have been available to assist in the installation of other filter plants desiring to use this form of filtration. This system had been found to be successful and manageable.

In only four instances are the supplies owned by the cities where the water is used; namely, the city of Providence, the city of Pawtucket, the city of Woonsocket, and the town of Westerly.

In the Pawtuxet Valley there are four public water supplies. These are operated by private water companies. The water-sheds of all four are practically free from possible contamination or pollution, being comparatively free from habitations and industrial plants. They are called the East Greenwich Water Company, the Pawtuxet

Valley Water Company, the Coventry Water Company, and one known as Knight's Spring. The results of the analyses of this group will be found in the following tables under the heading of Pawtuxet Valley water supply, and indicate that they are of very good quality for surface supplies.

The supply of Westerly, from driven wells, ranks as the best supply in the State.

The supply at Block Island is taken from a pond which receives a certain amount of surface flow. The water-shed is free from habitation. The pond is supposed to be fed also from springs. The quality is fairly good, though, like a number of the waters in the State, liable to be infected with algae growths of different forms, which at times produce a disagreeable odor and taste in the drinking-water.

The supply of Woonsocket is received from a large water-shed which is owned or controlled by the city. The shed is closely watched and inspected. The supply is a sanitary water as far as chemical and bacteriological analyses show, but being a surface supply and being stored in contact with organic and earthy matter, the water has quite a high color and a slightly vegetable or woody taste. This can be corrected only by filtration.

Manville is a mill village situated in the towns of Lincoln and Cumberland. A portion of the town is supplied from an extension of the mains of the Woonsocket Water Company. Many of the houses are owned by the Manville Company and are occupied by the operatives in the mills. Those houses on the side of the river not reached by the Woonsocket supply, namely the Cumberland Hill side, are supplied with water through pipes leading from a supply which is owned by the Manville Company.

The source of this supply is partly from the surface flow of a low area called Ballou's Meadows and partly from a spring called Colwell's Spring. The brook flowing through the meadow is received in a small reservoir near the village and the water from the spring is directed into this small reservoir from which the water is piped directly to the mill and the cottages.

The analyses of water from the faucets in the village vary very decidedly according to whether the supply is mostly from the brook or from the spring. The presence of *B. coli communis* at times can be accounted for by the pasturage about the brook.

The city of Newport derives its supply from two or three streams which run through a rather level water-shed, the area of which is fairly well inhabited. This is utilized for pasturage for cattle and sheep, and fowl have access to the streams. In some instances, the streams have been utilized as a drainage disposal system for individual residences. The color of the water is not very high, but the taste is not of a potable standard. The organic matter is variable with the season, and "algae" troubles are the cause of considerable complaint.

The town of Jamestown is supplied from two different sources, one called the South Station, and the other located further up the Island of Conanicut and called the North Station. The former supplies a white water, while the latter is darker in color, and shows more organic matter when examined chemically. Bacterially, the supply as delivered in the town, varies and is not all that could be desired.

The supply at Wakefield and Narragansett Pier is derived from a flat water-shed, not thickly inhabited, but is impounded in reservoirs where much coloring matter is taken up from the decay of vegetable matter, such as stumps, trees, and leaves. The only means of securing a white potable water with this supply would be by the use of filtration. Owing to the small consumption, such expense at the present time might not be warranted. Some few years ago, a mechanical filter was installed and then abandoned after a few weeks use on account of objection by some consumers to the use of alum in the process.

The Bristol Water Works, supplying the towns of Bristol and Warren, derives its supply from surface flow impounded in two reservoirs. The upper one, being flooded over stumps and decaying vegetable matter, delivers considerable decomposed organic matter to the lower reservoir.

The accumulation of this material for many years in the lower reservoir had produced a condition whereby the water held in storage

in the upper reservoir may become increased in color and in all organic constituents after passing through the lower reservoir and before being pumped into the mains.

The lower reservoir was constructed on an area which was previously flooded by the tidal salt water from Mount Hope bay. The dam for holding back the fresh water is so near to the high-water line that at high tides the salt water has been known to exchange its saline qualities from the outside into the storage reservoir above the dam.

With an extremely high tide and a strong wind the salt water from without may at times overcome the baffle-boards or flap-gates of the dam and the water in the lower reservoir becomes saturated with chlorides, and the resulting analyses must necessarily at times be freaky with the variations in the tide and weather conditions.

The color is extremely high. The taste is musty and not enticing to the average person who drinks water, and "algae" are often present.

Spasmodic attempts have been made from time to time to rectify these conditions, but owing to a difference of opinion between the private owners of the supply and the town as to the value of the whole plant, and water company business, naturally no attempt would be made to rectify the character of the water. It is to be hoped that, after the legal masters to whom the business status has been referred make their report a satisfactory agreement may be arrived at. The investigation and complaint of the State Board of Health described in the reports for 1902 and 1903 resulted in no change of the questionable conditions of possible pollution which have existed.

Pawtucket continues to maintain inspection of the streams contributing to the supply, and the water stands well in quality with the average unfiltered surface supplies of the State. Complaints of "algae" were made during the latter part of the year by the consumers.

The supply of Pascoag and that of the State Sanatorium at Wallum Lake were examined as a routine for the first time this year. Both of these supplies are shown to be of good quality. The only objec-

tionable point about the Pascoag supply has been the occasional presence of *B. coli communis*, due to pasturage in the vicinity of some of the springs, but steps have been taken to overcome this.

This year the sampling points in some cases have been changed. These changes have been in the line of testing water from taps in the towns or cities, rather than water from different reservoirs. In most cases the water from certain points in the collecting system has been taken as well as the tap samples on the distribution system.

The periodical examination of these water supplies gives valuable working data to the Board in the presence of a prevalence of any water-borne or communicable disease.

While typhoid fever and cholera are the only two diseases which are considered as water-borne at the present time, the periodical examination supplies information to the Board which can be acted upon promptly to the advantage of any town or city which has been afflicted.

If the causation of an epidemic is directly traced to a water supply, the records of the results of the chemical and bacteriological tests allow of certain deductions of exclusion or possible inclusion as a causative factor, thus permitting of immediate determination and also more earnest effort in other directions to determine a possible source of infection.

The following tables present the results of the periodical analyses of the different supplies. It will be noted that routine tests for *B. coli communis*, the typical sewage bacterium, were begun in June of this year.

The results are given by months, also the yearly average; and the averages for previous years are reproduced as pointed out on page 100 in the case of the Providence supply. These figures are given in groups, where the supplies come from the same neighborhood, or where there are samples taken at different points in the course of the flow of the supply.

The figures in the following tables given as the averages for the residue on evaporation, hardness, and alkalinity determinations are to the nearest .05 parts per 100,000 that being the accuracy of the methods used for these determinations.



## Providence Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Providence, taken from the South Branch of the Pawtuxet River, at Washington, above all sources of pollution.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.		RESIDUE ON EVAPO- RATION.				AMMONIA.				NITRO- GEN.		Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Total.	In Solution.	In Suspension.	Chlorine.	As Nitrates.					As Nitrites.
Jan. 3.....	v. sl.	sl.	.78	4.35	1.25	3.10	.0014	.0150	.0124	.0026	.31	.005	.0000	.70	.40	.40	568
*Jan. 17.....	v. sl.	v. sl.	.56	3.75	1.30	2.45	.0012	.0110	.0098	.0012	.25	.002	.0001	.62	.40	.40	118
Jan. 31.....	v. sl.	sl.	.60	3.30	1.25	2.05	.0032	.0104	.0082	.0022	.28	.002	.0001	.50	.30	.35	496
Feb. 14.....	none.	v. sl.	.34	3.40	1.00	2.40	.0010	.0096	.0080	.0016	.35	.000	.0000	.40	.65	.50	952
Feb. 28.....	sl.	sl.	.39	2.85	.90	1.95	.0006	.0110	.0100	.0010	.28	.000	.0000	.48	.30	.40	162
Mar. 14.....	none.	v. sl.	.45	3.15	1.30	1.85	.0012	.0122	.0104	.0018	.22	.000	.0000	.52	.15	.30	180
Mar. 28.....	none.	v. sl.	.30	2.70	1.10	1.60	.0010	.0088	.0074	.0014	.24	.000	.0000	.34	.25	.25	176
April 11.....	v. sl.	sl.	.36	2.60	.95	1.65	.0018	.0100	.0090	.0010	.18	.000	.0000	.47	.00	.25	203
April 25.....	v. sl.	v. sl.	.50	2.90	1.30	1.60	.0016	.0122	.0104	.0018	.27	.000	.0000	.59	.25	.30	107
May 10.....	v. sl.	v. sl.	.46	2.85	1.15	1.70	.0010	.0136	.0128	.0008	.30	.000	.0000	.53	.25	.30	216
May 23.....	none.	sl.	.52	3.30	1.45	1.85	.0014	.0140	.0130	.0010	.21	.001	.0000	.60	.70	.55	209
June 6.....	v. sl.	sl.	.68	3.30	1.50	1.80	.0032	.0212	.0186	.0026	.28	.002	.0001	.73	.25	.40	696
June 20.....	v. sl.	sl.	.72	3.70	1.80	1.90	.0032	.0168	.0158	.0010	.21	.003	.0000	.79	.65	.40	177
July 11.....	v. sl.	v. sl.	.57	3.30	1.40	1.90	.0012	.0154	.0124	.0030	.20	.003	.0000	.65	.08	.50	Lost.
July 25.....	v. sl.	sl.	.66	4.15	1.80	2.35	.0022	.0162	.0146	.0016	.28	.002	.0000	.67	.50	.60	55
†Aug. 8.....	sl.	sl.	.68	3.90	1.60	2.30	.0016	.0182	.0160	.0022	.26	.001	.0000	.70	.00	.55	2300
Aug. 22.....	none.	sl.	.76	4.60	2.40	2.20	.0024	.0184	.0172	.0012	.26	.000	.0000	.88	.50	.40	600
Sept. 5.....	v. sl.	v. sl.	.57	5.20	2.45	2.75	.0010	.0166	.0156	.0010	.32	.000	.0000	.63	.25	.95	275
Sept. 26.....	none.	v. sl.	.44	4.40	2.10	2.30	.0032	.0134	.0130	.0004	.34	.000	.0001	.38	.55	1.00	160
Oct. 11.....	sl.	v. sl.	.50	3.80	1.20	2.60	.0036	.0154	.0138	.0016	.33	.000	.0000	.47	.15	.90	100
Oct. 24.....	v. sl.	v. sl.	.62	4.25	1.25	3.00	.0036	.0144	.0138	.0006	.30	.002	.0001	.65	.55	1.00	400
Nov. 7.....	v. sl.	sl.	.78	4.80	2.00	2.80	.0058	.0178	.0166	.0012	.41	.000	.0000	.88	.65	.70	170
Nov. 21.....	v. sl.	v. sl.	.55	4.30	1.55	2.75	.0044	.0128	.0124	.0004	.37	.000	.0001	.66	.30	.60	1400
Dec. 5.....	v. sl.	v. sl.	.52	4.10	1.45	2.65	.0042	.0134	.0128	.0006	.28	.003	.0000	.62	.65	.60	550
Dec. 19.....	none.	v. sl.	.46	4.15	1.35	2.80	.0038	.0120	.0114	.0006	.38	.002	.0001	.51	.50	.75	900
Yearly avg....	v. sl.	v. sl.	.55	3.70	1.45	2.25	.0022	.0140	.0126	.0014	.28	.001	.0000	.60	.35	.55	478

NOTE.—Odor generally distinctly vegetable—Dinobryon present in samples of Feb. 28 and Mar. 28.

\*Heavy rain Jan. 16.

†After heavy rain.



## Providence Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Providence, taken from the North Branch of the Pawtuxet River at Hope, above all sources of pollution.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.					As Nitrites.
								Total.	In Solution.	In Suspension.							
Jan. 3. ....	v. sl.	v. sl.	.58	3.20	1.15	2.05	.0010	.0014	.0104	.0010	.27	.004	.0000	.63	.50	.30	141
*Jan. 17. ....	v. sl.	v. sl.	.44	3.45	1.15	2.30	.0010	.0102	.0396	.0036	.22	.003	.0000	.51	.40	.30	1388
Jan. 31. ....	none.	v. sl.	.40	3.10	1.00	2.10	.0012	.0080	.0076	.0004	.26	.002	.0000	.43	.25	.30	164
Feb. 14. ....	none.	v. sl.	.30	3.10	1.10	2.00	.0008	.0034	.0084	.0030	.31	.005	.0000	.38	.70	.35	45
Feb. 28. ....	sl.	sl.	.38	3.00	1.05	1.95	.0008	.0118	.0008	.0020	.25	.002	.0000	.47	.50	.30	248
Mar. 14. ....	v. sl.	v. sl.	.30	2.95	.80	2.15	.0012	.0086	.0082	.0001	.21	.003	.0000	.38	.50	.30	153
Mar. 28. ....	sl.	sl.	.33	2.60	1.15	1.45	.0008	.0110	.0382	.0028	.24	.003	.0000	.41	.25	.20	682
April 11. ....	v. sl.	sl.	.50	2.70	.95	1.75	.0014	.0120	.0104	.0016	.18	.000	.0000	.62	.30	.10	889
April 25. ....	v. sl.	v. sl.	.40	2.85	1.20	1.65	.0004	.0100	.0086	.0014	.27	.004	.0000	.45	.25	.30	237
May 10. ....	v. sl.	v. sl.	.54	2.95	1.25	1.70	.0014	.0136	.0132	.0004	.25	.002	.0000	.62	.50	.30	186
May 23. ....	none.	sl.	.44	3.15	1.40	1.75	.0010	.0136	.0120	.0016	.20	.001	.0000	.53	.80	.55	264
June 6. ....	v. sl.	sl.	.51	3.20	1.60	1.60	.0028	.0172	.0148	.0024	.21	.004	.0001	.59	.50	.60	303
June 20. ....	v. sl.	sl.	.65	3.50	1.70	1.80	.0014	.0158	.0148	.0010	.23	.004	.0000	.73	.50	.35	374
July 11. ....	v. sl.	v. sl.	.67	3.45	1.65	1.80	.0020	.0152	.0132	.0020	.21	.004	.0000	.76	.30	.40	144
July 25. ....	v. sl.	sl.	.66	4.00	1.60	2.40	.0020	.0146	.0118	.0028	.23	.002	.0000	.62	.30	.55	190
†Aug. 8. ....	sl.	sl.	.60	3.90	1.70	2.20	.0014	.0160	.0150	.0010	.22	.003	.0001	.68	.15	.45	1800
Aug. 22. ....	v. sl.	sl.	.52	3.70	1.90	1.80	.0008	.0146	.0128	.0018	.25	.001	.0000	.58	.65	.55	110
Sept. 5. ....	v. sl.	v. sl.	.42	3.90	1.45	2.45	.0008	.0152	.0112	.0010	.22	.001	.0000	.47	.30	.90	240
Sept. 26. ....	none.	v. sl.	.46	3.90	1.75	2.15	.0032	.0156	.0144	.0012	.30	.002	.0000	.59	.50	.80	803
Oct. 11. ....	sl.	v. sl.	.56	4.05	1.75	2.30	.0014	.0168	.0156	.0012	.31	.002	.0000	.73	.40	.50	1600
Oct. 24. ....	none.	none.	.92	4.25	1.90	2.35	.0031	.0186	.0180	.0006	.36	.003	.0000	1.03	1.20	.40	325
Nóv. 7. ....	none.	v. sl.	.50	3.70	1.40	2.30	.0024	.0128	.0128	.0000	.34	.003	.0000	.60	.85	.50	200
Nov. 21. ....	none.	v. sl.	.47	3.50	1.15	2.35	.0018	.0120	.0112	.0008	.33	.001	.0000	.60	.40	.40	230
Dec. 5. ....	v. sl.	v. sl.	.36	3.60	1.20	2.40	.0020	.0100	.0036	.0004	.27	.006	.0000	.46	.65	.50	600
Dec. 19. ....	v. sl.	v. sl.	.40	3.40	1.05	2.35	.0018	.0110	.0106	.0004	.30	.003	.0000	.43	.55	.60	350
Yearly avg. . .	v. sl.	v. sl.	.49	3.40	1.35	2.05	.0015	.0130	.0118	.0012	.26	.003	.0000	.57	.50	.45	493

NOTE—Odor generally distinctly vegetable.

\*Heavy rain, January 16.

†After heavy rain.

## Providence Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Providence, taken from the Pawtuxet River, at Intake to Filter Beds at Pettaconset.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
								Total.	In Solution.	In Suspension.								
Jan. 3.....	v. sl.	sl.	.68	5.00	1.50	3.50	.0012	.0166	.0140	.0026	.43	.014	.0002	.69	.95	.30	670 ..	
*Jan. 17.....	dec.	cons.	.54	5.10	1.55	3.55	.0022	.0204	.0134	.0070	.26	.010	.0001	.70	.50	.40	3348 ..	
Jan. 31.....	sl.	sl.	.51	4.65	1.55	3.10	.0014	.0124	.0106	.0018	.35	.008	.0002	.60	.80	.35	253 ..	
Feb. 14.....	dec.	cons.	.45	4.85	1.50	3.35	.0032	.0186	.0158	.0028	.40	.005	.0001	.58	1.20	.40	2666 ..	
Feb. 28.....	sl.	cons.	.45	4.25	1.40	2.85	.0012	.0148	.0112	.0036	.36	.005	.0001	.51	1.45	.45	.....	
Mar. 14.....	sl.	sl.	.33	3.65	1.10	2.55	.0016	.0134	.0102	.0032	.26	.003	.0001	.47	.85	.40	339 ..	
Mar. 28.....	dec.	cons.	.35	3.85	1.40	2.45	.0006	.0164	.0118	.0046	.26	.006	.0002	.41	.50	.40	812 ..	
April 11.....	dec.	cons.	.49	4.15	1.55	2.60	.0028	.0176	.0116	.0060	.25	.004	.0001	.64	.65	.20	1314 ..	
April 25.....	dec.	cons.	.46	4.00	1.55	2.45	.0024	.0152	.0128	.0024	.36	.008	.0006	.60	.40	.40	884 ..	
May 10.....	v. sl.	sl.	.55	3.85	1.50	2.35	.0012	.0194	.0178	.0016	.32	.002	.0002	.74	.65	.50	960 ..	
May 23.....	sl.	cons.	.53	4.90	2.00	2.90	.0004	.0200	.0164	.0036	.32	.008	.0004	.68	1.25	.65	2593 ..	
June 6.....	sl.	cons.	.67	4.30	1.55	2.75	.0016	.0244	.0164	.0080	.39	.007	.0006	.74	.65	.50	3465 ..	
June 20.....	sl.	cons.	.70	4.60	1.90	2.70	.0008	.0206	.0160	.0046	.29	.007	.0003	.80	.80	.60	779 +	
July 11.....	sl.	cons.	.68	5.20	2.20	3.00	.0010	.0210	.0168	.0042	.28	.008	.0004	.76	.70	.60	† ..	
July 25.....	sl.	cons.	.57	6.20	2.20	4.00	.0012	.0248	.0170	.0078	.40	.007	.0005	.69	.70	.95	1700 ..	
†Aug. 8.....	none.	cons.	.60	5.50	2.10	3.40	.0004	.0224	.0156	.0068	.43	.008	.0004	.67	.80	.70	3000 ..	
Aug. 22.....	sl.	cons.	.60	6.00	2.60	3.40	.0014	.0194	.0158	.0036	.42	.005	.0004	.75	1.50	.70	800 +	
Sept. 5.....	sl.	cons.	.53	6.10	1.90	4.20	.0004	.0226	.0174	.0052	.39	.005	.0003	.61	1.45	1.30	† ..	
Sept. 23.....	sl.	cons.	.45	5.55	1.85	3.70	.0006	.0206	.0152	.0054	.48	.005	.0003	.53	.85	.85	† +	
Oct. 11.....	sl.	cons.	.45	6.00	1.90	4.10	.0012	.0286	.0162	.0124	.52	.001	.0009	.63	1.45	1.00	3600 ..	
Oct. 24.....	v. sl.	cons.	.84	5.80	2.00	3.80	.0026	.0232	.0194	.0038	.49	.006	.0002	1.08	1.45	.85	1400 +	
Nov. 7.....	dec.	cons.	.68	6.10	2.25	3.85	.0020	.0232	.0182	.0050	.50	.006	.0003	.80	1.20	.70	3700 ..	
Nov. 21.....	dec.	cons.	.53	5.80	1.65	4.15	.0022	.0184	.0152	.0032	.46	.004	.0004	.81	.85	.60	4800 +	
Dec. 5.....	sl.	cons.	.45	5.65	1.80	3.85	.0032	.0180	.0152	.0028	.43	.013	.0004	.73	.95	.80	1800 ..	
Dec. 19.....	dec.	cons.	.40	5.35	1.50	3.85	.0014	.0162	.0134	.0028	.50	.006	.0010	.50	1.25	1.00	1370 +	
Yearly avg...	sl. to dec.	cons.	.54	5.05	1.75	3.30	.0015	.0195	.0149	.0046	.38	.006	.0003	.67	.90	.60	2600 +	

NOTE.—Odor generally distinctly vegetable to unpleasant.

\*Heavy rain day before.

†During heavy rain.

‡Counts abnormally high; out of average.

## Providence Water Supply.

*Examinations for Color and Bacteria per c. c. of Samples from Outlets of Filter Beds at Pettaconsett.*

DATE.	No. of Beds in Use.	Average Color.	Average Bacteria per c. c.	
Jan. 3.....	6	.43	25	
Jan. 17.....	6	.36	23	
Jan. 31.....	6	.41	34	
Feb. 14.....	6	.25	4	
Feb. 28.....	6	.31	102*	*One new bed in use, = 528
Mar. 14.....	7	.27	17	
Mar. 28.....	6	.27	291†	†Two beds running over rate; at 4,000,000
April 11.....	7	.28	48	
April 25.....	7	.32	46	
May 10.....	5	.34	27	
May 23.....	6	.32	14	
June 6.....	6	.40	36	
June 20.....	7	.43	56	
July 11.....	6	.44	7	
July 25.....	6	.33	1	
Aug. 8.....	6	.36	9	
Aug. 22.....	6	.38	17	
Sept. 5.....	6	.29	9	
Sept. 26.....	5	.24	38	
Oct. 11.....	6	.26	48	
Oct. 24.....	5	.56	74	
Nov. 7.....	5	.53	128	
Nov. 21.....	6	.37	46	
Dec. 5.....	7	.35	303	
Dec. 19.....	6	.32	.....‡	‡Counts all high for some reason; aver- age, = 1,000.
Averages of bi-monthly averages.....		.35	58	

Raw water averages, color, = 54; Bacteria, 2,000; Percentage removals, color, = 35%; Bacteria, = 97.1%.

## Providence Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Providence,  
taken from the Tap in the Laboratory of the State Board of Health, at Providence.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.		RESIDUE ON EVAPO- RATION.				AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness	Alkalinity.	Bacteria per c. c.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.				As Nitrites.	B. coli.
								Total.	In Solution.	In Suspension.							
Jan. 3.....	none.	v. sl.	.42	5.05	1.10	3.95	.0030	.0118	.0110	.0005	.42	.014	.0000	.48	.95	.90	†34 ..
Jan. 17.....	v. sl.	v. sl.	.41	4.55	1.30	3.25	.0010	.0106	.0094	.0012	.38	.015	.0002	.47	.65	.60	29 ..
Jan. 31.....	v. sl.	v. sl.	.33	4.10	1.45	2.65	.0026	.0088	.0076	.0012	.35	.012	.0002	.39	.80	.50	47 ..
Feb. 14.....	v. sl.	v. sl.	.31	4.40	1.20	3.20	.0008	.0094	.0070	.0024	.43	.008	.0001	.40	1.60	.55	23 ..
Feb. 28.....	v. sl.	v. sl.	.28	3.60	1.05	2.55	.0020	.0084	.0078	.0006	.38	.006	.0001	.30	.80	.50	91 ..
Mar. 14.....	none.	none.	.28	3.60	1.25	2.35	.0024	.0084	.0080	.0004	.30	.005	.0002	.34	.85	.55	75 ..
Mar. 28.....	*v. sl.	*v. sl.	.23	3.70	1.10	2.60	.0020	.0104	.0078	.0026	.36	.007	.0001	.30	.85	.56	10 ..
April 11.....	none.	v. sl.	.26	3.25	1.15	2.10	.0022	.0078	.0076	.0002	.27	.007	.0001	.30	.50	.45	36 ..
April 25.....	v. sl.	v. sl.	.30	3.50	1.15	2.35	.0012	.0094	.0078	.0016	.35	.011	.0000	.35	.65	.45	58 ..
May 9.....	v. sl.	sl.	.25	3.50	1.10	2.40	.0016	.0126	.0090	.0036	.41	.005	.0001	.31	.55	.50	54 ..
May 23.....	none.	v. sl.	.25	4.00	1.40	2.60	.0018	.0094	.0092	.0002	.27	.009	.0000	.35	1.50	.80	1 ..
June 6.....	none.	v. sl.	.35	3.45	1.25	2.20	.0018	.0108	.0008	.0010	.24	.006	.0001	.42	.65	.50	85 ..
June 20.....	none.	none.	.39	4.00	1.30	2.70	.0018	.0108	.0100	.0008	.32	.011	.0000	.44	1.80	.80	5 ..
July 11.....	none.	v. sl.	.39	4.25	1.50	2.75	.0002	.0104	.0104	.0000	.28	.004	.0002	.45	1.25	1.25	2 ..
July 25.....	none.	v. sl. also cyclops	.23	5.60	1.55	4.05	.0006	.0094	.0092	.0002	.37	.010	.0000	.32	1.35	1.40	2 ..
Aug. 8.....	none.	none.	.30	4.50	1.50	3.00	.0004	.0106	.0098	.0008	.44	.009	.0000	.44	.95	1.00	26 ..
Aug. 22.....	none.	v. sl.	.36	5.50	2.10	3.40	.0008	.0096	.0004	.0012	.30	.005	.0000	.44	1.75	1.30	90 ..
Sept. 5.....	v. sl.	v. sl.	.28	5.05	1.35	3.70	.0004	.0110	.0094	.0016	.43	.002	.0001	.35	1.25	.95	55 ..
Sept. 26.....	none.	v. sl.	.20	6.45	2.05	4.40	.0008	.0092	.0084	.0008	.49	.005	.0000	.29	1.10	1.70	80 ..
Oct. 11.....	none.	none.	.23	4.85	1.10	3.75	.0004	.0090	.0000	.0000	.48	.002	.0000	.30	1.55	1.10	50 ..
Oct. 24.....	none.	none.	.38	4.55	1.25	3.30	.0018	.0100	.0100	.0000	.40	.005	.0000	.44	1.50	1.00	100 0
Nov. 7.....	none.	none.	.45	5.55	1.70	3.85	.0016	.0096	.0096	.0000	.49	.002	.0000	.54	1.50	1.20	30 ..
Nov. 21.....	none.	none.	.40	4.75	1.45	3.30	.0020	.0108	.0108	.0000	.51	.004	.0000	.51	.80	.70	† 0 ..
Dec. 5.....	none.	none.	.32	4.75	1.30	3.45	.0012	.0088	.0088	.0000	.41	.013	.0000	.40	1.05	.80	120 ..
Dec. 19.....	none.	none.	.37	4.70	1.20	3.50	.0008	.0108	.0108	.0000	.46	.015	.0000	.38	.80	.85	† + ..
Yearly avg...	none to v. sl.	none. v. sl. to none.	.32	4.45	1.35	3.10	.0014	.0099	.0091	.0008	.39	.008	.0001	.33	1.10	.80	70 0 ..

NOTE.—Odor generally distinctly vegetable; February–May of micro-organisms—Diatoms, mainly asterionella, present February–May.

\* Micro-organisms. † Sample taken January 9th; no growth in previous sample, (probably not plated).

‡ Counts abnormally high, out of average, as possibly contaminated in collection.

## Providence Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Providence, giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of the Water at Different Points of the Supply.*

(Parts in 100,000.)

DATE OF COLLECTION.	RESIDUE ON EVAPO- RATION.				AMMONIA.				NITRO- GEN.			Oxygen Consumed	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.
	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.					
						Total.	In Solution.	In Suspension.								
Washington—																
1902.....	.43	3.55	1.40	2.15	.0020	.0170	.0162	.0008	.28	.005	.0002*	.55	.50	.40	633	....
1903.....	.47	3.55	1.30	2.25	.0020	.0164	.0150	.0014	.25	.004	.0000	.57	.55	.40	331	....
1904.....	.51	3.75	1.45	2.30	.0040	.0183	.0162	.0021	.29	.006	.0001	.59	.65	.45	846	....
1905.....	.55	4.05	1.55	2.50	.0028	.0161	.0146	.0015	.32	.004	.0000	.62	.60	.60	749	....
1906.....	.55	3.70	1.45	2.25	.0022	.0149	.0126	.0014	.28	.001	.0000	.60	.35	.55	478	....
Hope—																
1902.....	.41	3.55	1.40	2.15	.0011	.0165	.0155	.0010	.25	.006	.0000	.56	.55	.40	1235	....
1903.....	.41	3.50	1.30	2.20	.0013	.0152	.0139	.0013	.24	.005	.0000	.53	.60	.45	538	....
1904.....	.38	3.55	1.30	2.25	.0016	.0148	.0135	.0013	.27	.007	.0000	.48	.75	.50	834	....
1905.....	.41	3.65	1.50	2.15	.0016	.0141	.0126	.0015	.29	.005	.0000	.49	.65	.50	771	....
1906.....	.49	3.40	1.35	2.05	.0015	.0130	.0118	.0012	.26	.003	.0000	.57	.50	.45	493	....
Pettaconsett—																
1902.....	.42	5.05	1.75	3.30	.0022	.0230	.0192	.0038	.39	.012	.0002	.62	1.15	.65	6650	....
1903.....	.46	5.00	1.70	3.30	.0018	.0220	.0185	.0035	.36	.011	.0002	.65	1.20	.60	3700	....
1904.....	.46	5.30	1.90	3.40	.0027	.0226	.0183	.0043	.42	.019	.0003	.63	1.45	.65	3900	....
1905.....	.50	5.80	2.10	3.70	.0025	.0223	.0184	.0045	.48	.014	.0004	.68	1.35	.70	2700	....
1906.....	.54	5.05	1.75	3.30	.0015	.0195	.0149	.0045	.38	.006	.0003	.67	.90	.60	2000	+
Laboratory Tap—																
1902.....	.39	4.80	1.55	3.25	.0013	.0179	.0154	.0025	.41	.013	.0000	.51	1.15	.65	615	....
1903.....	.40	4.45	1.35	3.10	.0014	.0157	.0139	.0018	.37	.011	.0001	.49	1.15	.65	565	....
1904.....	.41	4.75	1.50	3.25	.0023	.0170	.0150	.0020	.42	.023	.0001	.49	1.40	.65	1140	....
1905.....	.43	5.15	1.65	3.50	.0014	.0161	.0142	.0022	.44	.017	.0002	.44	1.30	.90	610	....
†1906.....	.32	4.45	1.35	3.10	.0014	.0099	.0091	.0008	.39	.005	.0001	.39	1.10	.80	50	0

\*All determinations 0 except one.

†First year of filtration.



## Pawtuxet Valley Water Supply.

*Chemical and Bacteriological Examination of a Water Supply in the Pawtuxet Valley, controlled by the Pawtuxet Valley Water Company, the sample being taken in the village of Riverpoint.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.								
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.	Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.
								Total.	In Solution.	In Suspension.								
Jan. 29.....	sl.	cons	.35	3.80	1.40	2.40	.0004	.0172	.0122	.0050	.33	.003	.0000	.37	.65	.65	152	..
Feb. 27.....	v. sl.	sl.	.28	3.15	1.20	1.95	.0016	.0184	.0140	.0044	.33	.002	.0001	.35	.65	.60	37	..
Mar. 12.....	sl.	v. sl.	.27	3.30	1.35	1.95	.0024	.0180	.0136	.0044	.34	.004	.0000	.36	.50	.60	155	..
April 9.....	sl.	sl.	.23	3.10	1.25	1.85	.0050	.0154	.0128	.0026	.34	.003	.0001	.31	.50	.55	186	..
May 7.....	†sl.	†sl.	.28	3.30	1.50	1.80	.0014	.0206	.0136	.0070	.32	.000	.0000	.36	.50	.55	42	..
June 18.....	none.	v. sl.	.30	3.50	1.40	2.10	.0016	.0138	.0132	.0006	.25	.006	.0001	.35	.65	.70	288	0
July 9.....	v. sl.	v. sl.	.31	3.60	1.30	2.30	.0010	.0144	.0130	.0014	.27	.007	.0000	.31	.50	.80	97	0
Aug. 6.....	none.	v. sl.	.33	3.45	1.20	2.25	.0006	.0124	.0120	.0004	.30	.003	.0000	.30	.65	1.00	+	0
Sept. 3.....	none.	v. sl.	.30	4.75	1.45	3.30	.0008	.0142	.0142	.0000	.30	.001	.0000	.30	.95	.65	+	0
Oct. 8.....	v. sl.	v. sl.	.25	3.60	1.30	2.30	.0016	.0148	.0136	.0012	.37	.000	.0000	.29	1.10	1.20	250	0
Nov. 6.....	v. sl.	v. sl.	.30	3.75	1.25	2.50	.0010	.0124	.0118	.0006	.36	.006	.0001	.28	.85	1.10	600	0
Dec. 3.....	sl.	v. sl.	.33	3.75	1.30	2.45	.0054	.0150	.0136	.0014	.36	.008	.0001	.30	.65	.80	500	0
Yearly avg.....	v. sl.	v. sl.	.29	3.60	1.35	2.25	.0019	.0155	.0131	.0024	.32	.004	.0000	.32	.70	.75	230	0

NOTE.—Average odor distinctly vegetable and unpleasant. Micro-organisms present January–May; mostly protozoa and diatoms.

†Micro-organisms.

‡Counts abnormally high, probably contaminated in collection.

*Chemical and Bacteriological Examination of a Water Supply in the Pawtuxet Valley, controlled by the Coventry Water Company, the sample being taken in the village of Riverpoint.*

Jan. 29.....	dec. iron	cons.	†.32 ‡.04	3.50	.75	2.75	.0006	.0052	.0040	.0012	.30	.001	.0000	.08	1.45	1.25	22 ..	
Feb. 27.....	sl.	v. sl.	†.40	1.55	.40	1.15	.0006	.0052	.0052	.0000	.30	.000	.0000	.05	.15	.15	51 ..	
Mar. 12.....	sl.	sl. iron.	†.55 ‡.10	2.10	.55	1.55	.0034	.0062	.0048	.0014	.29	.000	.0000	.03	.30	.30	19 ..	
April 9.....	sl. iron.	sl. iron.		.27	1.85	.65	1.20	.0014	.0058	.0058	.0000	.30	.000	.0000	.07	.15	.20	19 ..
May 7.....	sl. iron.	none.		.24	1.70	.40	1.30	.0002	.0034	.0034	.0000	.32	.000	.0000	.05	.25	.20	79 ..
June 18.....	v. sl.	none.		.08	2.00	.40	1.60	.0004	.0036	.0032	.0004	.26	.002	.0000	.03	.50	.20	13 0
July 9.....	v. sl.	v. sl.		.12	2.65	.60	2.05	.0008	.0056	.0056	.0000	.27	.004	.0000	.07	.80	.70	19 0
Aug. 6.....	none.	v. sl.		.09	2.05	.50	1.55	.0006	.0058	.0054	.0004	.29	.001	.0000	.07	.00	.35	1 0
Sept. 3.....	none.	none.		.05	2.45	.65	1.80	.0002	.0060	.0060	.0000	.31	.000	.0000	.06	.50	.40	0 0
Oct. 8.....	v. sl.	v. sl.		.06	2.05	.65	1.40	.0006	.0060	.0060	.0000	.31	.000	.0000	.07	.50	.50	65 0
Nov. 12.....	none.	v. sl.		.05	2.50	.70	1.80	.0008	.0066	.0066	.0000	.31	.000	.0000	.05	.50	.40	80 0
Dec. 3.....	none	v. sl.		.09	2.15	.65	1.50	.0010	.0058	.0058	.0000	.30	.002	.0000	.05	.65	.35	25 0
Yearly avg....	v. sl.	v. sl.		.19	2.20	.55	1.65	.0009	.0054	.0051	.0003	.30	.001	.0000	.06	.50	.45	32 0

NOTE.—Average odor faintly vegetable.

Unfiltered.

‡Filtered.



## Pawtuxet Valley Water Supply.

*Chemical and Bacteriological Examination of a Water Supply in the Pawtuxet Valley, taken from a supply known as Knight's Spring, or Fountain, the sample being taken in the village of Riverpoint.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
								Total.	In Solution.	In Suspension.								
Jan. 29.....	0	0	.00	7.70	3.20	4.50	.0002	.0008	.....	.....	.98	.300	.0000	.00	2.60	.25	19	..
Feb. 27.....	0	0	.00	6.10	2.65	3.45	.0002	.0014	.....	.....	.82	.270	.0000	.00	1.95	.20	18	..
Mar. 12.....	0	0	.00	5.90	2.20	3.70	.0006	.0012	.....	.....	.84	.170	.0000	.00	1.80	.30	170	..
April 9.....	0	0	.00	6.00	2.60	3.40	.0006	.0014	.....	.....	.78	.260	.0000	.00	1.90	.20	7	..
May 7.....	0	0	.00	5.45	1.95	3.50	.0002	.0014	.....	.....	.71	.190	.0000	.00	2.00	.20	107	..
June 18.....	0	0	.00	5.55	2.05	3.50	.0006	.0012	.....	.....	.65	.180	.0000	.01	1.80	.30	89	0
July 9.....	0	0	.00	5.65	2.05	3.60	.0000	.0010	.....	.....	.72	.200	.0000	.00	1.55	.35	49	†
Aug. 6.....	0	0	.00	5.40	1.80	3.60	.0000	.0004	.....	.....	.68	.150	.0000	.00	1.25	.35	5	0
Sept. 3.....	0	0	.00	6.00	2.20	3.80	.0000	.0010	.....	.....	.66	.190	.0000	.00	1.35	1.15	1600	0
Oct. 8.....	0	0	.00	5.70	2.00	3.70	.0010	.0020	.....	.....	.61	.200	.0000	.00	2.20	.50	275	0
Nov. 6.....	0	0	.00	7.00	2.90	4.10	.0006	.0008	.....	.....	.78	.260	.0000	.00	2.20	.50	200	0
Dec. 3.....	0	0	.00	7.10	2.80	4.30	.0006	.0016	.....	.....	.88	.340	.0000	.00	1.80	.45	49	0
Yearly avg..	none.	none.	.00	6.15	2.40	3.75	.0004	.0012	.....	.....	.76	.226	.0000	.00	1.85	.40	215	0

NOTE.—Odor, none.

†B. Coli = Presumptive Positive.

## East Greenwich Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the town of East Greenwich,  
the sample being taken from the tap in the office of the health officer.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
								Total.	In Solution.	In Suspension.								
Jan. 29.....	none.	v. sl.	.35	4.20	1.40	2.80	.0012	.0054	.0050	.0004	.35	.008	.0000	.34	.80	.50	6	
Feb. 26.....	none.	none.	.39	3.25	1.05	2.20	.0010	.0080	.0074	.0006	.35	.007	.0001	.39	.65	.40	24	
Mar. 12.....	none.	none.	.31	3.70	1.00	2.70	.0012	.0056	.0052	.0004	.30	.006	.0000	.30	1.05	.55	47	
April 9.....	none.	none.	.32	3.55	1.35	2.20	.0012	.0072	.0062	.0010	.39	.007	.0000	.31	1.10	.90	4	
May 8.....	none.	v. sl.	.61	4.00	1.75	2.25	.0008	.0134	.0122	.0012	.35	.011	.0000	.63	.65	.55	9	
June 18.....	v. sl.	sl.	.52	5.10	1.90	3.20	.0020	.0118	.0106	.0012	.40	.008	.0003	.50	2.10	1.30	Lost.	
July 10.....	none.	v. sl.	.72	4.55	1.70	2.85	.0002	.0124	.0110	.0014	.34	.009	.0000	.70	.80	.80	4	0
Aug. 6.....	v. sl.	sl.	.70	5.10	1.85	3.25	.0002	.0140	.0112	.0028	.38	.003	.0000	.66	1.05	1.25	36	0
Sept. 3.....	none.	v. sl.	.22	4.25	1.10	3.15	.0002	.0058	.0054	.0004	.37	.010	.0000	.17	1.05	1.40	100	0
Oct. 8.....	none.	v. sl.	.21	4.60	1.20	3.40	.0010	.0068	.0068	.0000	.44	.006	.0000	.21	1.50	1.30	80	0
Nov. 7.....	none.	v. sl.	.40	4.90	1.65	3.25	.0008	.0084	.0080	.0004	.44	.005	.0000	.44	1.10	1.15	60	0
Dec. 4.....	none.	v. sl.	.31	4.40	1.30	3.10	.0014	.0070	.0062	.0008	.38	.008	.0000	.37	1.05	1.15	80	0
Yearly avg...	none.	v. sl.	.42	4.30	1.45	2.85	.0009	.0088	.0079	.0009	.37	.007	.0000	.44	1.05	.95	40	0

NOTE.—Odor generally faintly to distinctly vegetable.

## Kent County Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of Kent County, giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of the Water of the Different Supplies.*

(Parts in 100,000.)

DATE OF COLLECTION.	RESIDUE ON EVAPO- RATION.				AMMONIA.				NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.
	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.					
						Total.	In Solution.	In Suspension.								
Pawtuxet Valley.W. Co.—																
1902.....	.31	3.50	1.25	2.25	.0022	.0165	.0158	.0007	.33	.014	.0000	.37	.80	.55	888	..
1903.....	.29	3.70	1.15	2.55	.0013	.0149	.0143	.0006	.32	.011	.0000	.35	1.20	.85	510	..
1904.....	.26	3.75	1.25	2.50	.0017	.0146	.0134	.0012	.35	.014	.0000	.29	1.35	1.05	904	..
1905.....	.26	3.85	1.45	2.40	.0017	.0159	.0139	.0020	.38	.007	.0000	.31	1.25	1.00	1384	..
1906.....	.29	3.60	1.35	2.25	.0019	.0155	.0131	.0024	.32	.004	.0000	.32	.70	.75	230	0
Knight's Spring—																
1902.....	.00	6.15	2.20	3.95	.0001	.0015	.....	.....	.76	.320	.0000	.00	2.00	.30	571	..
1903.....	.00	6.35	2.00	4.35	.0001	.0016	.....	.....	.72	.333	.0000	.01	2.15	.40	354	..
1904.....	.00	6.10	2.30	3.80	.0002	.0013	.....	.....	.70	.328	.0000	.00	2.05	.45	329	..
1905.....	.00	6.30	2.30	4.00	.0002	.0016	.....	.....	.78	.295	.0000	.00	2.00	.40	687	..
1906.....	.00	6.15	2.40	3.75	.0004	.0012	.....	.....	.76	.226	.0000	.00	1.85	.40	215	0
Coventry Water Co.—																
1902.....	.03	1.95	.65	1.30	.0005	.0068	.....	.....	.30	.004	.0000	.07	.25	.20	2478	..
1903.....	.03	1.95	.55	1.40	.0005	.0075	.....	.....	.28	.002	.0000	.07	.35	.25	745	..
1904.....	.08	2.00	.65	1.35	.0009	.0071	.....	.....	.31	.004	.0000	.07	.55	.45	362	..
1905.....	.17	2.20	.70	1.50	.0007	.0060	.0059	.0001	.31	.003	.0000	.05	.55	.40	545	..
1906.....	.19	2.20	.55	1.65	.0009	.0054	.0051	.0003	.30	.001	.0000	.06	.50	.45	32	0
East Greenwich—																
1902.....	.30	4.40	1.20	3.20	.0005	.0089	.0081	.0008	.41	.011	.0000	.36	1.35	1.05	649	..
1903.....	.50	4.60	1.45	3.15	.0010	.0129	.0120	.0009	.40	.010	.0000	.58	1.30	.90	459	..
1904.....	.38	4.50	1.40	3.10	.0008	.0103	.0093	.0010	.41	.017	.0000	.40	1.45	1.15	576	..
1905.....	.34	4.35	1.20	3.15	.0009	.0084	.0078	.0006	.41	.015	.0000	.35	1.20	1.00	59	..
1906.....	.42	4.30	1.45	2.85	.0009	.0088	.0079	.0009	.37	.007	.0000	.44	1.05	.95	40	0

## Woonsocket Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Woonsocket,  
the sample being taken from the First Impounding Reservoir.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.							
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.		Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.	Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
					Total.	In Solution.		In Suspension.									
Jan. 23.....	v. sl.	sl.*	.42	3.15	1.55	1.60	.0030	.0260	.0172	.0088	.21	.002	.0000	.53	.30	.25	482
Feb. 28.....	sl.	cons.*	.42	3.30	1.40	1.90	.0028	.0226	.0168	.0058	.27	.000	.0000	.53	.50	.20	68
Mar. 26.....	v. sl.	sl.	.35	2.80	1.00	1.80	.0022	.0184	.0152	.0032	.24	.002	.0000	.48	.25	.20	218
April 25.....	sl.	cons.	.40	2.95	1.40	1.55	.0016	.0164	.0124	.0040	.25	.000	.0000	.48	.40	.20	110
Yearly avg...	sl. to v. sl.	sl. to cons.	.40	3.05	1.35	1.70	.0024	.0209	.0154	.0055	.24	.001	.0000	.51	.35	.20	220

NOTE.—Odor, distinctly vegetable. Miscellaneous micro-organisms present in first three samples.

\*Many crustaceans.

*Chemical and Bacteriological Examination of the Water Supply of the City of Woonsocket,  
the sample being taken from the Pumping Station.*

Jan. 23.....	none.	v. sl.	.45	3.55	1.35	2.20	.0030	.0126	.0118	.0008	.26	.003	.0000	.53	.80	.30	197
Feb. 28.....	v. sl.	v. sl.	.42	3.00	1.20	1.80	.0016	.0110	.0110	.0000	.30	.001	.0000	.48	.30	.30	117
Mar. 26.....	none.	none.	.35	2.85	1.00	1.85	.0016	.0104	.0096	.0008	.30	.003	.0000	.41	.25	.25	75
April 25.....	none	none.	.50	3.00	1.45	1.55	.0018	.0116	.0116	.0000	.29	.003	.0000	.59	.55	.25	138
May 28.....	v. sl.	v. sl.	.68	3.70	1.70	2.00	.0026	.0178	.0168	.0010	.26	.004	.0000	.68	.50	.45	285
June 25.....	none.	none.	.77	3.80	1.65	2.15	.0018	.0168	.0156	.0012	.23	.007	.0000	.78	.60	.50	58
July 23.....	none.	v. sl.	.75	4.55	2.05	2.50	.0028	.0176	.0170	.0006	.28	.005	.0000	.65	.65	.60	*
Aug. 27.....	v. sl.	v. sl.	.74	4.30	2.00	2.30	.0018	.0182	.0168	.0014	.26	.005	.0000	.71	.65	.65	*
Sept. 24.....	none.	v. sl.	.52	3.80	1.80	2.00	.0028	.0174	.0160	.0014	.28	.003	.0000	.48	.80	.70	75
Oct. 29.....	none.	none.	.82	4.40	2.00	2.40	.0026	.0196	.0196	.0000	.34	.003	.0000	.95	1.55	.45	50
Nov. 26.....	v. sl.	v. sl.	.62	3.70	1.55	2.15	.0008	.0158	.0158	.0000	.33	.001	.0000	.68	.40	.35	180
Dec. 17.....	sl.	v. sl.	.45	3.80	1.20	2.60	.0038	.0142	.0134	.0005	.35	.004	.0000	.50	.50	.70	1000
Yearly avg...	v. sl.	v. sl.	.59	3.70	1.60	2.10	.0022	.0153	.0146	.0007	.29	.004	.0000	.62	.65	.45	218

NOTE.—Odor generally faintly to distinctly vegetable. Asterionella present in December sample.

\*Counts abnormally high; out of average, as possibly contaminated in collection.

## Woonsocket Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Woonsocket, the sample being taken from the tap in the office of the Superintendent of the Woonsocket Water Works.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.		Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
								Total.	In Solution.	In Suspension.								
Jan. 23.....	none.	v. sl.	.48	3.60	1.30	2.30	.0024	.0130	.0122	.0008	.25	.004	.0000	.56	.50	.25	582	..
Feb. 28.....	v. sl.	v. sl.	.44	3.40	1.65	1.75	.0016	.0134	.0122	.0012	.30	.002	.0000	.50	.50	.30	92	..
Mar. 26.....	v. sl.	v. sl.	.35	3.00	1.10	1.90	.0012	.0116	.0108	.0008	.26	.003	.0000	.42	.30	.25	205	..
April 25.....	none.	sl.	.68	7.80	2.25	5.55	.0014	.0166	.0126	.0040	.27	.001	.0000	.65	1.45	1.30	168	..
May 28.....	sl.	cons. iron.		4.95	2.20	2.75	.0024	.0244	.0168	.0076	.28	.006	.0001	.78	.50	.50	217	..
June 25.....	v. sl.	sl.	.82	3.85	1.75	2.10	.0016	.0182	.0140	.0042	.23	.007	.0000	.82	.55	.50	74	+
July 23.....	dec.	sl.	‡1.00 §.73	4.95	2.15	2.80	.0026	.0200	.0164	.0036	.29	.008	.0001	.76	.55	.65	90	0
Aug. 27.....	v. sl.	sl.	.76	4.25	1.95	2.30	.0018	.0202	.0180	.0022	.27	.004	.0000	.70	.65	.65	350	+
Sept. 24.....	sl.	cons.	‡.72 §.54	4.10	2.00	2.10	.0034	.0204	.0168	.0036	.30	.003	.0001	.58	.50	.65	28	†
Oct. 29.....	v. sl.	v. sl.	1.00	4.85	2.20	2.65	.0026	.0236	.0226	.0010	.38	.002	.0000	1.11	1.35	.45	550	0
Nov. 26.....	none.	v. sl.	.63	3.85	1.55	2.30	.0012	.0154	.0154	.0000	.31	.002	.0000	.69	.55	.35	150	0
Dec. 17.....	v. sl.	v. sl.	.50	3.70	1.25	2.45	.0024	.0134	.0134	.0000	.36	.005	.0000	.53	.80	.55	500	+
Yearly avg...	v. sl.	v. sl.	.67	4.35	1.80	2.55	.0021	.0175	.0151	.0024	.29	.004	.0000	.59	.70	.55	251	*

NOTE.—Odor generally distinctly vegetable; micro-organisms present in September sample.

\*B. coli = 0 to +. † = Presumptive positive. ‡Unfiltered. §Filtered. ||Poor color, due to work on mains.

## Woonsocket Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Woonsocket, giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of the Water at Different Points of the Supply.*

(Parts in 100,000.)

DATE OF COLLECTION	RESIDUE ON EVAPO- RATION.				AMMONIA.				NITRO- GEN.				Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.
	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.						
						Total.	In Solution.	In Suspension.									
Reservoir 3—																	
1902.....	.56	3.80	2.10	1.70	.0061	.0384	.0277	.0107	.23	.005	.0000	.71	.55	.40	1068	..	
1903.....	.50	3.35	1.45	1.90	.0024	.0294	.0223	.0071	.22	.004	.0000	.61	.65	.45	232	..	
1904.....	.45	3.20	1.65	1.55	.0037	.0292	.0228	.0064	.25	.005	.0000	.51	.65	.40	595	..	
1905.....	.45	3.40	1.75	1.65	.0027	.0297	.0212	.0085	.27	.003	.0000	.53	.50	.40	588	..	
1906, Jan.—Apr....	.40	3.05	1.35	1.70	.0024	.0209	.0154	.0055	.24	.001	.0000	.51	.35	.20	220	..	
Pumping Station—																	
1902.....	.59	4.35	1.75	2.60	.0034	.0252	.0222	.0030	.25	.009	.0000	.67	.80	.55	668	..	
1903.....	.61	4.10	1.70	2.40	.0022	.0219	.0199	.0020	.28	.006	.0000	.74	1.00	.60	1431	..	
1904.....	.52	3.95	1.65	2.30	.0036	.0200	.0179	.0021	.30	.008	.0000	.62	1.00	.60	764	..	
1905.....	.53	3.95	1.75	2.20	.0023	.0196	.0173	.0023	.30	.006	.0000	.62	.80	.55	312	..	
1906.....	.59	3.70	1.60	2.10	.0022	.0153	.0146	.0007	.29	.004	.0000	.62	.65	.45	218	..	
Supt's Office—																	
1902.....	.55	4.00	1.60	2.40	.0020	.0234	.0207	.0027	.25	.009	.0000	.63	.90	.55	1283	..	
1903.....	.63	4.30	1.70	2.60	.0018	.0224	.0198	.0026	.27	.007	.0000	.76	1.00	.60	2067	..	
1904.....	.51	3.90	1.70	2.20	.0025	.0197	.0172	.0025	.30	.008	.0000	.61	1.00	.60	612	..	
1905.....	.53	4.00	1.75	2.25	.0020	.0204	.0178	.0026	.30	.006	.0000	.61	.85	.55	519	..	
1906.....	.67	4.35	1.80	2.55	.0021	.0175	.0151	.0024	.29	.004	.0000	.59	.70	.55	251	*	

\*B. coli = 0 to +.



## Pawtucket Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Pawtucket,  
the Sample being taken from the tap in the Boiler Room of Pumping Station No. 3.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.			Oxygen Consumed.			Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.		Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.							
									Total.	In Solution.	In Suspension.									
Jan. 22.....	none.	v. sl.	.31	3.60	1.10	2.50	.0014	.0114	.0100	.0014	.31	.004	.0000	.35	.85	.60	225	..		
Feb. 26.....	sl.	none.	.33	3.60	1.25	2.35	.0016	.0120	.0098	.0022	.30	.002	.0001	.41	.65	.50	306	..		
Mar. 26.....	none.	v. sl.	.22	3.40	1.10	2.30	.0012	.0092	.0086	.0006	.27	.006	.0001	.26	.80	.60	213	..		
April 23.....	none.	none.	.34	3.55	1.35	2.20	.0022	.0116	.0114	.0002	.29	.007	.0000	.39	1.05	.70	93	..		
May 28.....	v. sl.	none.	.30	3.75	1.40	2.35	.0032	.0094	.0094	.0000	.32	.010	.0001	.28	1.55	1.00	8	..		
June 25.....	none.	v. sl.	.40	4.20	1.40	2.80	.0016	.0124	.0122	.0002	.30	.012	.0000	.40	1.10	1.05	13	..		
July 23.....	v. sl.	v. sl.	.38	4.80	1.65	3.15	.0012	.0126	.0114	.0012	.31	.007	.0001	.38	1.70	1.20	2800	..		
Aug. 20.....	v. sl.	v. sl.	.50	4.55	1.70	2.85	.0016	.0124	.0122	.0002	.30	.004	.0000	.44	1.50	1.25	90	..		
Sept. 18.....	v. sl.	v. sl.	.32	4.25	1.30	2.95	.0006	.0106	.0090	.0016	.27	.006	.0001	.22	.95	1.40	60	..		
Oct. 15.....	v. sl.	v. sl.	.24	4.15	1.50	2.65	.0020	.0114	.0106	.0008	.40	.006	.0001	.27	1.20	1.10	31	..		
Nov. 13.....	v. sl.	none.	.37	4.55	1.55	3.00	.0026	.0114	.0106	.0008	.45	.006	.0001	.39	1.25	1.00	400	..		
Dec. 10.....	v. sl.	none.	.28	4.55	1.15	3.40	.0022	.0114	.0110	.0004	.42	.015	.0000	.33	1.45	1.00	500	..		
Yearly avg...	v. sl.	v. sl.	.33	4.10	1.40	2.70	.0018	.0113	.0105	.0008	.33	.007	.0001	.34	1.15	.95	395	..		

NOTE.—Odor faintly to distinctly vegetable; micro-organisms present in November sample.

*Chemical and Bacteriological Examination of the Water Supply of the City of Pawtucket,  
the Sample being taken from the Tap in the office of the City Engineer.*

May 28.....	v. sl.	none.	.31	4.30	1.65	2.65	.0014	.0098	.0098	.0000	.32	.011	.0001	.29	1.50	1.00	142 ..
June 25.....	v. sl.	v. sl.	.42	4.20	1.45	2.75	.0012	.0126	.0126	.0000	.28	.012	.0000	.41	1.10	1.05	106 +
July 23.....	v. sl.	none.	.38	5.00	2.00	3.00	.0006	.0112	.0104	.0008	.32	.005	.0000	.37	1.45	1.20	§ 8
Aug. 20.....	v. sl.	v. sl.	.59	4.55	1.95	2.60	.0006	.0128	.0128	.0000	.35	.004	.0000	.48	1.25	1.10	950 ..
Sept. 18.....	none.	v. sl.	.32	4.10	1.30	2.80	.0004	.0092	.0092	.0000	.34	.005	.0001	.22	1.20	1.15	130 0
Oct. 15.....	v. sl.	v. sl.	.24	4.30	1.65	2.65	.0010	.0110	.0106	.0004	.38	.005	.0000	.27	.95	1.10	220 +
Oct. 25.....	v. sl.	none.	.33	.....	.....	.....	.0012	.0116	.0110	.0006	.....	.....	.....	.40	.....	.....	85 ..
Nov. 13.....	v. sl.	v. sl.	.37	4.75	1.70	3.05	.0024	.0120	.0110	.0010	.46	.007	.0001	.43	1.25	1.10	200 0
Dec. 10.....	v. sl.	none.	.28	4.55	1.15	3.40	.0022	.0112	.0112	.0000	.38	.014	.0000	.37	1.45	1.05	400 0
Yearly avg...	v. sl.	v. sl.	.35	4.45	1.60	2.85	.0012	.0112	.0109	.0003	.35	.008	.0000	.36	1.30	1.10	279 ‡

NOTE.—Odor faintly to distinctly vegetable. Samples of October 25 and November 13 contain numerous micro-organisms, largely protozoa.

‡B. coli = 0 to +.

§Count 17,000; sample evidently contaminated in collection.

## Pawtucket Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Pawtucket,  
the Sample being taken from the Diamond Hill Reservoir.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN						
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.		Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.	Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
								Total.	In Solution.	In Suspension.							
Jan. 22.....	none.	v. sl.	.27	3.55	1.35	2.20	.0014	.0156	.0146	.0010	.27	.000	.0000	.41	1.25	.40	111
Mar. 2.....	v. sl.	sl.	.26	3.40	1.05	2.35	.0014	.0164	.0136	.0025	.33	.000	.0001	.41	.55	.35	17
Mar. 26.....	sl.	sl.	.28	3.00	1.30	1.70	.0018	.0146	.0126	.0020	.35	.001	.0000	.40	.50	.35	41
April 23.....	v. sl.	sl.	.31	3.00	1.15	1.85	.0020	.0126	.0116	.0010	.28	.002	.0000	.42	.40	.40	47
Yearly avg...	v. sl.	sl.	.28	3.25	1.20	2.05	.0017	.0148	.0131	.0017	.31	.001	.0000	.41	.70	.40	54

NOTE.—Odor distinctly vegetable and unpleasant;—Micro-organisms principally Dinobryon and Diatoms present in all but first sample.

*Chemical and Bacteriological Examination of the Water Supply of the City of Pawtucket,  
the Sample being taken from Sneeck Pond Brook, a small stream entering the Abbott  
Run.*

Jan. 22.....	none.	v. sl.	.44	4.45	1.35	3.10	.0006	.0136	.0116	.0020	.29	.001	.0000	.50	1.45	.60	1122
Mar. 2.....	none.	v. sl.	.40	4.70	1.50	3.20	.0012	.0114	.0108	.0006	.37	.000	.0001	.51	1.25	.75	86
Mar. 26.....	none.	sl.	.35	4.55	2.10	2.45	.0022	.0118	.0102	.0016	.32	.002	.0000	.41	1.10	.65	439
April 23.....	none.	v. sl.	.50	3.95	1.35	2.60	.0030	.0118	.0118	.0000	.28	.004	.0000	.54	1.20	1.05	252
Yearly avg...	none.	v. sl.	.42	4.40	1.55	2.85	.0017	.0121	.0111	.0010	.31	.002	.0000	.49	1.25	.75	474

NOTE.—Odor faintly to distinctly vegetable.

## Pawtucket Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Pawtucket, giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of the Water at Different Points of the Supply.*

(Parts in 100,000.)

DATE OF COLLECTION.	RESIDUE ON EVAPO- RATION.				AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
						Total.	In Solution.	In Suspension.								
Tap in Boiler Room—																
Pumping Station No. 3.																
1902.....	.22	3.80	1.20	2.60	.0016	.0126	.0120	.0006	.32	.011	.0000	.30	1.35	.90	526	..
1903.....	.29	4.15	1.15	3.00	.0030	.0125	.0120	.0005	.31	.010	.0000	.33	1.45	1.00	1297	..
1904.....	.25	4.20	1.15	3.05	.0026	.0126	.0120	.0006	.33	.016	.0001	.29	1.50	1.05	1425	..
1905.....	.27	4.00	1.35	2.65	.0017	.0118	.0109	.0009	.36	.011	.0001	.30	1.50	1.00	4459	..
1906.....	.33	4.10	1.40	2.70	.0018	.0113	.0105	.0008	.33	.007	.0001	.34	1.15	.95	395	..
Tap, City Engineer's Office—																
1906, May-Dec.....	.35	4.45	1.60	2.85	.0012	.0112	.0109	.0003	.35	.008	.0000	.36	1.30	1.10	279	..
Diamond Hill Reservoir—																
1904.....	.23	3.25	1.25	2.00	.0038	.0191	.0164	.0027	.32	.005	.0000	.39	1.05	.60	194	..
1905.....	.26	3.35	1.35	2.00	.0013	.0172	.0146	.0026	.34	.003	.0000	.41	.90	.50	323	..
1906, Jan.-Apr.....	.28	3.25	1.20	2.05	.0017	.0148	.0131	.0017	.31	.001	.0000	.41	.70	.40	54	..
Sneech Pond Brook—																
1904.....	.32	4.65	1.40	3.25	.0020	.0133	.0117	.0016	.34	.010	.0000	.39	1.80	1.40	1659	..
1905.....	.40	5.05	1.65	3.40	.0017	.0128	.0116	.0012	.37	.008	.0001	.46	1.90	1.45	2059	..
1906, Jan.-Apr.....	.42	4.40	1.55	2.85	.0017	.0121	.0111	.0010	.31	.002	.0000	.49	1.25	.75	474	*

\*B. coli = 0 to +.

## Bristol and Warren Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Towns of Bristol and Warren, the Sample being taken from the Kickemuit River, at the Pumping Station of the Bristol and Warren Water Works.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.				
								Total.	In Solution.	In Suspension.							
Jan. 8.....	sl.	sl.	.87	5.80	2.40	3.40	.0020	.0220	.0202	.0018	.68	.003	.0000	1.01	1.25	.40	1859
Feb. 5.....	v. sl.	v. sl.	.80	6.00	2.60	3.40	.0022	.0228	.0210	.0018	.64	.005	.0002	.87	1.55	.65	156
Mar. 7.....	v. sl.	sl.	.83	4.50	2.10	2.40	.0030	.0218	.0200	.0018	.38	.003	.0000	.92	.80	.35	871
April 2.....	sl.	sl.	.72	4.45	1.80	2.65	.0010	.0206	.0170	.0036	.50	.003	.0000	.82	.95	.40	1063
April 30.....	v. sl.	sl.	1.00	5.45	2.45	3.00	.0036	.0266	.0240	.0026	.68	.002	.0001	.98	1.35	.60	†
June 5.....	v. sl.	v. sl.	1.60	6.40	3.50	2.90	.0034	.0366	.0338	.0028	.41	.004	.0001	1.73	1.35	.35	15
July 2.....	v. sl.	cons.	*1.80 †1.58	7.10	3.80	3.30	.0008	.0392	.0296	.0096	.50	.004	.0002	1.68	1.20	.70	611
Aug. 13.....	sl.	cons.	*1.75 †1.65	7.70	4.30	3.40	.0036	.0426	.0352	.0074	.46	.002	.0000	1.75	1.55	.80	900
Aug. 28.....	sl.	sl.	*1.58 †1.54	7.65	3.95	3.70	.0052	.0416	.0380	.0036	.61	.002	.0000	1.67	1.70	.90	275
Sept. 25.....	sl.	cons.	*.94 †.78	7.35	3.80	3.55	.0020	.0380	.0308	.0072	.81	.002	.0000	1.19	1.50	.95	2400
Oct. 23.....	sl.	sl.	.90	7.15	2.90	4.25	.0038	.0310	.0284	.0026	.68	.001	.0000	1.22	2.10	.60	1800
Nov. 21.....	sl.	sl.	1.00	7.40	2.85	4.55	.0028	.0228	.0222	.0006	.78	.003	.0000	1.24	1.70	.60	2000
Dec. 11.....	sl.	v. sl.	1.10	8.50	3.35	5.15	.0054	.0272	.0254	.0018	.91	.007	.0000	1.38	1.95	.75	950
Yearly avg...	sl.	sl.	1.15	6.55	3.05	3.50	.0030	.0302	.0266	.0036	.62	.003	.0000	1.27	1.45	.60	1075

NOTE.—Odor generally distinctly vegetable; micro-organisms present during late summer and early fall.  
 \*Unfiltered. †Filtered. ‡Out of average.

### Sample from Outlet of Upper Reservoir.

Aug. 28.....	v. sl.	sl.	*.52 †.48	3.90	1.80	2.10	.0032	.0245	.0198	.0048	.50	.000	.0000	.55	.50	.50	140
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\*Unfiltered. †Filtered.

## Bristol and Warren Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Towns of Bristol and Warren, the Sample being taken from the Tap in the Office of the Town Clerk of Bristol.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition. Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.						
							Total.	In Solution.	In Suspension.									
Jan. 8.....	sl.	cons.	.87	6.05	2.60	3.45	.0020	.0220	.0202	.0018	.70	.004	.0000	1.03	1.45	.45	808	...
Feb. 5.....	v. sl.	sl.	.80	6.00	2.65	3.35	.0014	.0218	.0196	.0022	.60	.005	.0002	.83	1.35	.65	139	...
Mar. 7.....	sl.	v. sl.	.74	4.50	2.20	2.30	.0022	.0210	.0192	.0018	.37	.003	.0000	.81	.80	.35	817	...
April 2.....	sl.	cons.	.69	4.45	1.85	2.60	.0014	.0182	.0148	.0034	.44	.004	.0000	.77	.80	.40	634	...
April 30.....	v. sl.	cons.	1.16	6.30	2.65	3.65	.0026	.0330	.0228	.0102	.71	.004	.0001	1.18	1.35	.70	2047	...
June 5.....	v. sl.	cons.	1.85	6.90	3.60	3.30	.0034	.0388	.0324	.0064	.50	.006	.0001	1.71	1.35	.50	2653	+
July 2.....	none.	v. sl.	*1.60 †1.58	6.30	3.30	3.00	.0052	.0332	.0312	.0020	.54	.002	.0002	1.58	1.20	.70	39	?
Aug. .13.....	sl.	cons.	*1.85 †1.60	8.20	4.20	4.00	.0034	.0444	.0330	.0114	.44	.004	.0000	1.75	1.45	.90	230	...
Aug. 28.....	sl.	cons.	*1.50 †1.46	7.75	4.05	3.70	.0040	.0436	.0348	.0088	.64	.003	.0000	1.65	1.75	.95	4500	+
Sept. 25.....	sl.	cons.	*1.00 †.76	7.20	3.40	3.80	.0022	.0382	.0304	.0078	.82	.002	.0000	1.20	1.55	.95	2100	+
Oct. 23.....	sl.	cons.	1.04	7.20	2.70	4.50	.0034	.0326	.0264	.0062	.69	.002	.0000	1.22	1.80	.60	400	‡
Nov. 21.....	v. sl.	sl.	1.02	7.40	2.65	4.75	.0030	.0226	.0216	.0010	.80	.003	.0000	1.23	1.70	.70	1400	‡
Dec. 11. ....	none.	v. sl.	1.04	8.30	3.10	5.20	.0038	.0264	.0252	.0012	.94	.008	.0000	1.40	2.00	.75	55	0
Yearly avg...	sl.	cons.	1.17	6.65	3.00	3.65	.0029	.0304	.0255	.0049	.63	.004	.0000	1.26	1.45	.65	1217	+

NOTE.—Odor generally distinctly vegetable; micro-organisms present during late summer and early fall.

\*Unfiltered.

†Filtered.

‡Pres. + == presumptive positive.

## Bristol and Warren Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Towns of Bristol and Warren, giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of the Water at Different Points of the Supply.*

(Parts in 100,000.)

DATE OF COLLECTION.	Color.	RESIDUE ON EVAPORA- TION.			AMMONIA.				Chlorine.	NITRO- GEN.		Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.
		Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.				As Nitrates.	As Nitrites.					
						Total.	In Solution.	In Suspension.								
Pumping Station—																
1902.....	.74	10.75	3.60	7.15	.0029	.0349	.0322	.0027	2.82	.008	.0000	1.02	2.30	.85	12052	..
1903.....	.85	7.00	2.50	4.50	.0044	.0341	.0310	.0031	1.04	.007	.0001	1.09	1.90	.90	3395	..
1904.....	.96	7.00	2.95	4.05	.0044	.0358	.0325	.0063	.96	.009	.0001	1.21	1.85	.85	14393	..
1905.....	1.16	7.05	3.25	3.80	.0048	.0349	.0303	.0046	.81	.007	.0001	1.31	1.65	.80	4603	..
1906.....	1.15	6.55	3.05	3.50	.0030	.0302	.0266	.0036	.62	.003	.0000	1.27	1.45	.60	1075	..
Town Clerk's Office—																
1902.....	.74	11.20	3.40	7.80	.0021	.0352	.0309	.0043	2.90	.010	.0000	1.01	2.40	.95	9798	..
1903.....	.84	7.60	2.65	4.95	.0038	.0367	.0295	.0072	1.06	.011	.0001	1.10	2.05	1.05	2987	..
1904.....	.94	7.85	3.20	4.65	.0035	.0423	.0316	.0107	.96	.013	.0001	1.23	2.05	1.05	11620	..
1905.....	1.12	7.35	3.20	4.15	.0036	.0355	.0291	.0064	.82	.010	.0001	1.31	1.80	.85	4398	..
1906.....	1.17	6.65	3.00	3.65	.0029	.0304	.0255	.0049	.63	.004	.0000	1.26	1.45	.65	1217	+



## Narragansett Pier Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the District of Narragansett,  
the Sample being taken from Rocky Brook, at the Pumping Station.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.		RESIDUE ON EVAPO- RATION.				AMMONIA.				NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.				
								Total.	In Solution.	In Suspension.							
Jan. 29.....	v. sl.	sl.	.80	5.00	2.10	2.90	.0018	.0168	.0146	.0022	.57	.008	.0000	.78	.80	.30	167
Feb. 19.....	v. sl.	v. sl.	.70	4.35	1.80	2.55	.0012	.0126	.0108	.0018	.58	.006	.0000	.71	.80	.30	217
Mar. 27.....	none.	none.	.60	3.80	1.25	2.55	.0026	.0108	.0106	.0002	.60	.009	.0000	.51	.25	.20	136
April 17.....	none.	v. sl.	.70	3.75	1.80	1.95	.0028	.0110	.0104	.0006	.47	.006	.0000	.61	.40	.20	156
May 28.....	v. sl.	v. sl.	.80	3.85	1.50	2.35	.0028	.0140	.0130	.0010	.59	.005	.0001	.68	.50	.40	126
June 20.....	v. sl.	v. sl.	1.04	4.50	1.85	2.65	.0022	.0184	.0160	.0024	.57	.010	.0001	.89	.50	.40	829
July 24.....	sl.	sl.	*.94 †.80	5.20	2.10	3.10	.0028	.0194	.0156	.0038	.62	.002	.0000	.77	.40	.55	80
Aug. 28.....	none.	v. sl.	.72	4.90	1.80	3.10	.0022	.0204	.0188	.0016	.68	.001	.0000	.68	.65	.60	1300
Sept. 24.....	v. sl.	sl.	1.36	6.45	3.45	3.00	.0032	.0284	.0230	.0054	.56	.002	.0000	1.53	.65	.40	900
Oct. 29.....	v. sl.	sl.	1.00	5.40	2.05	3.35	.0020	.0206	.0180	.0026	.66	.000	.0000	.98	1.35	.40	300
Nov. 26.....	none.	none.	.82	5.25	2.00	3.25	.0012	.0166	.0154	.0012	.65	.000	.0000	.88	.50	.30	650
Dec. 19.....	v. sl.	none.	.80	5.50	2.00	3.50	.0032	.0168	.0158	.0010	.76	.007	.0000	.85	1.20	.50	700
Yearly avg...	v. sl.	v. sl.	.86	4.85	2.00	2.85	.0026	.0172	.0152	.0020	.61	.005	.0000	.82	.65	.40	463

NOTE.—Odor generally distinctly vegetable. Diatoms present in July sample.

\*Unfiltered.

†Filtered.

## Narragansett Pier Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the District of Narragansett,  
the Sample being taken from the Tap in the Office of the Water Company.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.		Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. Coli.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
								Total.	In Solution.	In Suspension.								
Jan. 29.....	v. sl.	v. sl.	.75	4.80	2.00	2.80	.0006	.0112	.0108	.0004	.55	.006	.0000	.70	.70	.25	90	
Feb. 19.....	v. sl.	v. sl.	.62	4.35	1.85	2.50	.0006	.0106	.0098	.0008	.54	.010	.0000	.65	.50	.40	56	
Mar. 27.....	v. sl.	none.	.60	3.90	1.30	2.60	.0018	.0102	.0098	.0004	.52	.009	.0000	.48	.25	.20	57	
April 17.....	none.	v. sl.	.60	3.70	1.60	2.10	.0006	.0104	.0100	.0004	.49	.007	.0000	.56	.40	.20	124	
May 28.....	v. sl.	v. sl.	.64	3.90	1.55	2.35	.0008	.0126	.0108	.0018	.62	.006	.0000	.54	.65	.45	367	
June 26.....	v. sl.	v. sl.	1.06	4.50	1.95	2.55	.0014	.0154	.0118	.0036	.56	.012	.0000	.85	.70	.45	558 +	
July 24.....	none.	none.	.76	4.90	1.95	2.95	.0010	.0150	.0136	.0014	.59	.005	.0000	.68	.70	.55	100 0	
Aug. 28.....	none	v. sl.	.70	4.60	1.80	2.80	.0010	.0174	.0156	.0018	.68	.003	.0000	.65	.65	.45	275 +	
Sept. 24.....	sl.	cons.	1.60	7.60	4.40	3.20	.0030	.0296	.0232	.0064	.60	.003	.0000	1.82	1.25	.40	2 0	
Oct. 29.....	none.	sl.	1.00	5.25	2.10	3.15	.0022	.0188	.0170	.0018	.65	.004	.0000	.97	1.20	.40	45 0	
Nov. 26.....	none.	none.	.80	5.20	1.90	3.30	.0008	.0162	.0154	.0008	.65	.002	.0000	.88	.65	.35	170 +	
Dec. 19.....	v. sl.	v. sl.	.80	5.45	1.80	3.65	.0026	.0146	.0142	.0004	.72	.012	.0000	.82	.95	.70	300 0	
Yearly avg...	v. sl.	v. sl.	.83	4.85	2.00	2.85	.0014	.0152	.0135	.0017	.60	.007	.0000	.80	.70	.40	179 *	

NOTE.—Odor generally distinctly vegetable. Diatoms present in December sample.

\*B. Coli = 0 to +.

*Chemical and Bacteriological Examination of a Water Supply in the District of Narragansett,  
taken from a Supply known as the Gladstone Spring, the same being Located at Narra-  
gansett Pier.*

June 15....	0	0	.00	7.40	2 10	5.30	.0014	.0008	.....	.....	1.38	.092	.0000	.00	2.10	1.10	8 0
July 14.....	0	0	.00	7.95	2.05	5.90	.0000	.0004	.....	.....	1.40	.080	.0000	.00	1.80	1.00	* ..
Aug. 14.....	0	0	.00	8.10	2.00	6.10	.0000	.0000	.....	.....	1.40	.090	.0000	.01	2.10	1.15	2 ..
Sept. 4.....	0	0	.00	7.55	1.80	5.75	.0000	.0000	.....	.....	1.38	.090	.0000	.00	2.10	1.10	2 ..
Yearly avg...	none.	none.	.00	7.75	2.00	5.75	.0004	.0003	.....	.....	1.39	.088	.0000	.00	2.00	1.10	4 0

NOTE.—Odor, none.

\*Sample on road over Sunday; bacteria too numerous.

## Narragansett Pier Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the District of Narragansett,  
Giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of  
the Water at Different Points of the Supply.*

(Parts in 100,000.)

DATE OF COLLECTION.	Color.	RESIDUE ON EVAPO- RATION.			Free.	AMMONIA.			Chlorine.	NITRO- GEN.		Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
		Total.	Loss on Ignition.	Fixed.		Total.	Albuminoid.			As Nitrates.	As Nitrites.						
							In Solution.	In Suspension.									
Rocky Brook, Pumping Station—																	
1902.....	.75	4.90	1.70	3.20	.0029	.0210	.0191	.0019	.59	.010	.0000	.76	.80	.45	1722	..	
1903.....	.83	4.75	1.70	3.05	.0030	.0199	.0181	.0018	.60	.009	.0000	.82	.80	.45	1887	..	
1904.....	.80	4.85	1.95	2.90	.0030	.0203	.0183	.0020	.61	.010	.0000	.83	.90	.55	1769	..	
1905.....	.87	4.70	2.00	2.70	.0024	.0192	.0169	.0023	.61	.009	.0000	.82	.70	.45	483	..	
1906.....	.86	4.85	2.00	2.85	.0026	.0172	.0152	.0020	.61	.005	.0000	.82	.65	.40	463	..	
Narragansett Pier, Office Water Co.—																	
1902.....	.76	4.90	1.80	3.10	.0011	.0187	.0174	.0013	.61	.012	.0000	.73	.85	.45	646	..	
1903.....	.80	4.85	1.65	3.20	.0014	.0187	.0168	.0019	.60	.010	.0000	.77	.85	.50	1372	..	
1904.....	.79	5.15	2.00	3.15	.0023	.0194	.0176	.0018	.62	.014	.0000	.83	1.00	.55	2314	..	
1905.....	.83	4.85	2.00	2.85	.0012	.0167	.0156	.0011	.61	.011	.0000	.81	.75	.56	1641	..	
1906.....	.83	4.85	2.00	2.85	.0014	.0152	.0135	.0017	.60	.007	.0000	.80	.70	.40	179	*	
Narragansett Pier, Gladstone Spring—																	
1902.....	.00	7.10	1.50	5.60	.0003	.0015	.....	.....	1.21	.093	.0000	.02	2.20	.95	94	..	
1903.....	.00	7.25	1.55	5.70	.0002	.0010	.....	.....	1.24	.149	.0000	.00	2.10	1.10	126	..	
1904.....	.00	6.55	1.45	5.10	.0001	.0011	.....	.....	1.30	.137	.0000	.00	2.30	1.25	51	..	
1905.....	.00	7.25	1.25	6.00	.0002	.0008	.....	.....	1.31	.095	.0000	.00	2.05	1.20	25	..	
1906.....	.00	7.75	2.00	5.75	.0004	.0003	.....	...	1.39	.088	.0000	.00	2.00	1.10	4	0	

\*B. Coli=0 to +.

## Newport Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Newport, the Sample being taken from the South Reservoir at the Intake.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.		RESIDUE ON EVAPO- RATION.					AMMONIA.				NITRO- GEN.		Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.				
								Total.	In Solution.	In Suspension.							
Jan. 15. . . . .	dec.	cons.	*.33 †.23	9.60	2.80	6.80	.0116	.0518	.0344	.0174	1.82	.021	.0007	.64	2.45	1.70	76
Feb. 12. . . . .	sl.	cons.	.30	8.55	2.55	6.00	.0022	.0416	.0280	.0136	1.57	.033	.0006	.56	3.25	1.55	50
Mar. 12. . . . .	dec.	cons.	.34	8.00	3.05	4.95	.0052	.0434	.0272	.0162	1.24	.031	.0004	.56	2.45	1.30	61
April 9. . . . .	v. sl.	cons.	.30	7.60	2.60	5.00	.0054	.0370	.0254	.0116	1.26	.028	.0005	.57	2.35	1.25	280
Yearly avg. . .	sl.	cons.	.32	8.45	2.75	5.70	.0061	.0435	.0288	.0147	1.47	.028	.0006	.58	2.65	1.45	117

NOTE.—Odor faintly to distinctly vegetable, or of micro-organisms; micro-organisms generally present, largely protozoa and diatoms.

\*Unfiltered.

†Filtered.

*Chemical and Bacteriological Examination of the Water Supply of the City of Newport, the Sample being taken from the Tap in the Cottage of the Engineer of the Newport Water Works.*

Jan. 15.....	sl.	sl.	*.31 †.25	9.45	3.45	6.00	.0156	.0426	.0354	.0072	1.80	.033	.0006	.55	2.45	1.60	144
Feb. 12.....	v. sl.	v. sl.	.27	9.00	3.40	5.60	.0054	.0346	.0286	.0060	1.66	.028	.0001	.45	2.60	1.40	306
Mar. 12.....	sl.	sl.	.28	8.30	2.90	5.40	.0106	.0340	.0276	.0064	1.50	.042	.0001	.46	2.35	1.40	94
April 9.....	v. sl.	sl.	.24	7.90	2.80	5.10	.0126	.0278	.0222	.0056	1.54	.040	.0004	.49	2.45	1.40	344
May 8.....	sl.	sl.	.28	8.70	2.80	5.90	.0122	.0280	.0238	.0042	1.84	.040	.0006	.45	2.75	1.50	10902
June 12.....	sl.	cons. green.	*.41 †.24	8.75	3.40	5.35	.0078	.0370	.0270	.0100	1.64	.011	.0004	.48	2.55	1.50	905
July 16.....	v. sl.	v. sl.	*.25 †.20	9.00	3.50	5.50	.0102	.0316	.0252	.0064	1.42	.002	.0000	.37	2.45	1.70	1833
Aug. 21.....	sl.	cons.	*.29 †.23	9.20	3.00	6.20	.0054	.0300	.0250	.0050	1.68	.002	.0001	.40	3.50	1.80	600
Sept. 18.....	sl.	cons.	.22	8.40	2.40	6.00	.0038	.0330	.0270	.0060	1.80	.005	.0001	.40	2.75	2.00	325
Oct. 15.....	none.	v. sl.	.18	8.65	3.70	4.95	.0028	.0270	.0236	.0034	1.70	.012	.0000	.39	2.35	1.70	300
Nov. 12.....	none.	v. sl.	.20	8.00	2.50	5.50	.0050	.0258	.0248	.0010	1.74	.010	.0001	.40	2.40	1.60	1400
Dec. 11.....	none.	v. sl.	.22	7.70	2.35	5.35	.0164	.0314	.0294	.0020	1.36	.024	.0005	.48	2.20	1.50	7
Yearly avg..	v. sl.	sl.	.26	8.60	3.00	5.60	.0030	.0319	.0266	.0053	1.64	.021	.0003	.44	2.55	1.60	1430

NOTE.—Odor distinctly vegetable and of micro-organisms; miscellaneous micro-organisms generally present.

\*Unfiltered.

†Filtered.

‡Also crustaceans.

## Newport Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Newport, the Sample being taken from the Tap in the Office of the Board of Health of the City of Newport.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.		RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.							
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.	Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
								Total.	In Solution.	In Suspension.							
Jan. 18.....	sl.	sl.	* 32 † 24	9.55	2.80	6.75	.0226	.0450	.0344	.0106	1.76	.030	.0005	.59	2.80	1.90	317 .
Feb. 12.....	v. sl.	v. sl.	.26	8.85	3.45	5.40	.0026	.0326	.0278	.0048	1.62	.038	.0002	.41	3.05	1.40	94 ..
Mar. 12.....	sl.	sl.	.26	8.30	3.20	5.10	.0030	.0336	.0258	.0078	1.52	.044	.0001	.42	3.05	1.40	110 ..
April 10.....	none.	v. sl.	.22	8.00	3.20	4.80	.0028	.0238	.0220	.0018	1.46	.037	.0004	.40	2.45	1.40	1266 ..
May 7.....	sl.	sl.	.30	9.80	3.45	6.35	.0110	.0290	.0228	.0062	1.94	.033	.0010	.48	3.10	1.80	8954 ..
June 12.....	sl.	cons. green.	* 35 † .22	8.75	3.80	4.95	.0022	.0324	.0258	.0066	1.68	.018	.0005	.48	2.55	1.55	76 0
July 16.....	sl.	sl.	* 33 † .18	9.80	4.10	5.70	.0042	.0304	.0236	.0068	1.52	.005	.0001	.44	2.80	1.90	1785 0
Aug. 21.....	sl.	sl.	* 24 † .17	10.00	3.80	6.20	.0056	.0280	.0210	.0070	1.72	.000	.0007	.36	3.20	2.30	25 0
§Sept. 18....	sl.	cons.	.22	10.00	2.85	7.15	.0004	.0272	.0230	.0042	1.76	.000	.0001	.43	3.25	3.40	3200 0
Oct. 16.....	sl.	sl.	.19	8.70	2.95	5.75	.0012	.0252	.0224	.0028	1.62	.012	.0001	.35	3.25	2.40	29 0
Nov. 12.....	none.	v. sl.	.20	8.75	2.60	6.15	.0046	.0258	.0238	.0020	2.04	.013	.0001	.39	2.55	1.80	1200 †
Dec. 11.....	v. sl.	v. sl.	.22	8.40	2.75	5.65	.0082	.0286	.0274	.0012	1.58	.028	.0002	.44	2.60	1.80	1000 0
Yearly avg...	sl.	sl.	.26	9.10	3.25	5.85	.0057	.0301	.0250	.0051	1.69	.022	.0003	.43	2.90	1.90	1505 0

NOTE.—Odor distinctly vegetable and unpleasant, of micro-organisms. Miscellaneous micro-organisms generally present.

\*Unfiltered.

†Filtered

‡B. Coli = Presumptive Positive.

§From tap in car barn.



## Newport Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the City of Newport, giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of the Water at Different Points of the Supply.*

(Parts in 100,000.)

DATE OF COLLECTION.	Color.	RESIDUE ON EVAPO- RATION.			Free.	AMMONIA.			Chlorine.	NITRO- GEN.		Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.
		Total.	Loss on Ignition.	Fixed.		Total.	In Solution.	In Suspension.		As Nitrates.	As Nitrites.					
Newport,  Intake—																
1902.....	.26	8.55	2.95	5.60	.0045	.0525	.0387	.0138	1.58	.033	.0002	.64	2.60	1.75	1547	
1903.....	.30	8.85	2.90	5.95	.0146	.0537	.0373	.0164	1.46	.029	.0004	.68	2.75	1.80	1613	
1904.....	.29	8.45	2.90	5.55	.0138	.0536	.0364	.0172	1.64	.022	.0005	.60	2.70	1.75	2403	
1905.....	.29	8.90	3.20	5.70	.0092	.0486	.0344	.0142	1.81	.016	.0004	.57	2.65	1.70	736	
1906 (Jan -Apr.).....	.32	8.45	2.75	5.70	.0061	.0435	.0288	.0147	1.47	.028	.0006	.58	2.65	1.45	117	
Newport,  Eng. Cottage—																
1902.....	.24	9.00	2.75	6.25	.0102	.0406	.0344	.0062	1.79	.042	.0001	.56	2.80	1.80	1236	
1903.....	.26	9.65	2.70	6.95	.0211	.0379	.0315	.0064	1.95	.047	.0004	.52	3.25	2.15	2886	
1904.....	.27	9.30	2.85	6.45	.0171	.0390	.0316	.0074	1.96	.041	.0004	.49	3.20	2.15	4203	
1905.....	.26	8.95	2.95	6.00	.0090	.0367	.0300	.0067	1.87	.031	.0003	.46	2.70	1.70	2638	
1906.....	.26	8.60	3.00	5.60	.0090	.0319	.0266	.0053	1.64	.021	.0003	.44	2.55	1.60	1430	
Newport,  Tap, Board of Health Office—																
1902.....	.24	9.70	2.90	6.80	.0054	.0432	.0308	.0124	1.85	.052	.0002	.55	2.95	1.90	1554	
1903.....	.25	10.00	2.90	7.10	.0119	.0389	.0297	.0092	1.96	.051	.0005	.51	3.30	2.20	2734	
1904.....	.25	9.05	2.70	6.35	.0083	.0364	.0296	.0068	1.88	.042	.0004	.44	3.10	2.10	1426	
1905.....	.28	9.45	3.00	6.45	.0050	.0381	.0290	.0091	1.86	.033	.0003	.45	2.95	1.90	409	
1906.....	.26	9.10	3.25	5.85	.0057	.0301	.0250	.0051	1.69	.022	.0003	.43	2.90	1.90	1505	0



## Jamestown Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Town of Jamestown,  
the Sample being taken from the North Pumping Station.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.					As Nitrites.
								Total.	In Solution.	In Suspension.							
Jan. 16.....	sl.	cons.	.42	6.70	2.20	4.50	.0016	.0254	.0162	.0092	1.02	.017	.0000	.62	1.55	.60	770
*Feb. 11.....	sl.	cons.	.53	6.35	2.45	3.90	.0010	.0256	.0190	.0066	1.16	.016	.0000	.64	1.95	.69	173
*March 12...	none.	v. sl.	.48	5.30	2.30	3.00	.0022	.0218	.0178	.0040	.84	.012	.0000	.58	.95	.50	763
April 11.....	none.	v. sl.	.32	5.30	1.55	3.75	.0032	.0130	.0120	.0010	.97	.019	.0000	.46	1.45	.65	170
May 15.....	none.	sl.	.68	6.10	2.60	3.50	.0032	.0290	.0218	.0072	.93	.011	.0000	.82	1.70	.80	1707
June 10.....	none.	v. sl.	.82	6.05	2.80	3.25	.0032	.0270	.0260	.0010	.88	.012	.0000	.93	1.60	.60	3055
July 16.....	none.	v. sl.	1.12	7.30	3.70	3.60	.0028	.0374	.0358	.0016	.86	.005	.0000	1.21	1.60	.80	Liq.
Aug. 28.....	sl.	cons. green.	†1.08 †1.00	6.90	3.25	3.65	.0028	.0450	.0372	.0078	.98	.002	.0000	1.18	1.20	1.00	1600
Sept. 17.....	sl.	sl.	.80	7.30	2.90	4.40	.0060	.0348	.0230	.0068	.84	.012	.0001	1.00	1.70	.75	2500
*Oct. 17.....	v. sl.	v. sl.	.75	6.60	2.95	3.65	.0040	.0284	.0256	.0028	.94	.006	.0000	1.04	1.70	.50	900
Nov. 14.....	none.	none.	.48	6.70	2.35	4.35	.0020	.0190	.0178	.0012	1.26	.019	.0000	.61	1.95	.70	230
Dec. 12.....	none.	none.	.48	6.55	2.00	4.55	.0028	.0204	.0198	.0006	1.00	.016	.0000	.58	1.80	.75	1200
Yearly avg...	v. sl.	v. sl.	.66	6.45	2.60	3.85	.0029	.0272	.0231	.0041	.97	.012	.0000	.81	1.60	.70	1089

NOTE.—Odor generally faintly to distinctly vegetable; micro-organisms present during the late summer.

\*Pumping from West Pond.

†Unfiltered.

‡Filtered.

*Chemical and Bacteriological Examination of the Water Supply of the Town of Jamestown,  
the Sample being taken from the South Pumping Station.*

Jan. 16.....	none.	v. sl.	.00	17.90	6.60	11.30	.0004	.0020	.0020	.0000	4.24	200	.0000	.00	5.00	1.40	1213
Feb. 11.....	none.	v. sl.	.00	17.40	6.10	11.30	.0006	.0078	.0078	.0000	4.64	370	.0001	.02	5.60	1.30	812
Mar. 12.....	none.	none.	.00	16.80	5.70	11.10	.0002	.0036	.0036	.0000	4.30	380	.0000	.01	5.15	1.40	355
April 11.....	none.	sl.	.00	13.70	3.35	10.35	.0008	.0060	.0060	.0000	3.02	380	.0001	.08	3.90	1.20	41
May 15.....	v. sl.	v. sl.	.03	12.20	4.60	7.60	.0018	.0050	.0050	.0000	2.52	350	.0002	.10	4.45	1.00	1190
June 10.....	none.	sl.	.17	13.10	4.30	8.80	.0058	.0128	.0102	.0026	2.46	140	.0002	.31	4.45	1.10	1058
July 16.....	v. sl.	v. sl.	.03	19.10	8.30	10.80	.0024	.0072	.0046	.0026	3.82	250	.0005	.12	4.55	1.50	7900
Aug. 28.....	none.	v. sl.	.05	16.85	5.80	11.05	.0028	.0054	.0038	.0016	3.80	090	.0004	.07	4.70	1.80	23000
Sept. 17.....	v. sl.	v. sl.	.10	18.30	6.30	12.00	.0006	.0054	.0034	.0020	3.26	170	.0003	.07	4.85	1.75	59000
Oct. 17.....	v. sl.	v. sl.	.03	17.20	6.60	10.60	.0012	.0052	.0046	.0006	3.16	260	.0001	.04	4.55	1.70	1300
Nov. 14.....	v. sl.	v. sl.	.02	17.15	6.25	10.90	.0014	.0038	.0034	.0004	3.90	360	.0000	.03	4.55	1.85	1200
Dec. 12.....	none.	v. sl.	.00	16.00	4.60	11.40	.0012	.0044	.0042	.0002	3.58	300	.0001	.04	5.00	1.80	3000
	none.																
Yearly avg...	to	v. sl.	.04	16.30	5.70	10.60	.0016	.0057	.0049	.0008	3.56	271	.0002	.07	4.75	1.50	8340
	v. sl.																

NOTE.—Odor, none to very faintly earthy

## Jamestown Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Town of Jamestown, the Sample being taken from the Tap in the store of J. Watson, Located on the Distal End of the Supply Pipes.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.							
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.	Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
								Total.	In Solution.	In Suspension.							
Jan. 16.....	sl.	sl.	.44	7.90	2.50	5.40	.0010	.0154	.0136	.0018	1.23	.022	.0001	.43	2.45	1.50	51 ...
*Feb. 11.....	sl.	cons.	.53	6.45	2.35	4.10	.0014	.0238	.0174	.0064	1.16	.016	.0001	.61	1.95	0.90	593 ...
March 12....	sl.	cons.	.53	6.05	1.70	4.35	.0024	.0216	.0146	.0070	.92	.016	.0000	.46	1.70	1.15	501 ...
April 11.....	sl.	sl.	.41	6.10	2.20	3.90	.0014	.0108	.0104	.0004	1.02	.034	.0000	.33	1.90	1.10	49 ...
May 15.....	none.	v. sl.	.60	6.00	2.30	3.70	.0014	.0194	.0180	.0011	.96	.016	.0000	.74	1.55	1.00	106 ...
June 10.....	none.	v. sl.	.67	5.95	2.30	3.65	.0012	.0212	.0200	.0012	.80	.015	.0000	.75	1.35	.80	1983 +
July 17.....	v. sl.	sl.	.90	8.35	3.85	4.50	.0024	.0288	.0192	.0096	.86	.004	.0002	1.00	2.10	1.80	8500 ?
Aug. 28.....	sl.	sl.	<sup>*,86</sup> †.78	8.40	3.50	4.90	.0020	.0366	.0274	.0092	1.10	.007	.0002	.98	2.10	2.10	25500 +
Sept. 17.....	sl.	cons.	.74	8.90	3.00	5.90	.0040	.0338	.0256	.0082	.90	.006	.0008	.91	2.60	2.40	12500 +
Oct. 17.....	v. sl.	cons.	.72	7.85	3.05	4.80	.0020	.0282	.0206	.0076	.96	.010	.0000	.90	2.15	1.55	350 §
Nov. 14.....	none.	v. sl.	.48	8.00	2.65	5.35	.0010	.0186	.0170	.0016	1.28	.023	.0000	.64	2.60	1.95	65 0
Dec. 12.....	none.	v. sl.	.50	7.40	2.10	5.30	.0020	.0192	.0178	.0014	1.10	.014	.0000	<sup>†</sup> .64	2.75	1.70	1600 +
Yearly avg...	v. sl.	sl.	.62	7.30	2.65	4.65	.0019	.0231	.0185	.0046	1.02	.015	.0001	.70	2.10	1.50	4316 x

NOTE.—Odor generally faintly to distinctly vegetable. Micro-organisms present during the late summer.

\*Unfiltered. †Filtered. ‡Tap A. Chandler's house. §B. Coli Pres. + = Presumptive Positive.

x B. Coli + (to 0).

## Jamestown Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Town of Jamestown,  
Giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of  
the Water at Different Points of the Supply.*

(Parts in 100,000.)

DATE OF COLLECTION.	Color.	RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.
		Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.					
						Total.	In Solution.	In Suspension.								
Jamestown,  No. Pump'g Sta'n—																
1902.....	.65	7.70	2.95	4.75	.0037	.0379	.0337	.0042	1.16	.046	.0001	.88	1.90	1.00	4131	..
1903.....	.81	7.00	2.50	4.50	.0069	.0394	.0344	.0050	1.07	.036	.0001	.94	1.75	.95	4835	..
1904.....	.72	7.20	2.95	4.25	.0064	.0383	.0335	.0048	1.13	.020	.0000	1.01	1.85	.90	2050	..
1905.....	.66	6.75	2.65	4.10	.0116	.0354	.0282	.0072	1.12	.017	.0001	.80	1.70	.85	3707	..
1906.....	.66	6.45	2.60	3.85	.0029	.0272	.0231	.0041	.97	.012	.0000	.81	1.60	.70	1089	..
Jamestown,  So. Pump'g Sta'n—																
1902.....	.02	13.40	3.80	9.60	.0007	.0034	.0034	.0000	2.95	.396	.0000	.08	4.30	1.25	6578	..
1903.....	.03	14.35	3.90	10.45	.0017	.0083	.0077	.0006	3.21	.386	.0002	.20	4.55	1.65	*	..
1904.....	.14	12.30	3.75	8.55	.0023	.0107	.0093	.0014	3.13	.341	.0002	.28	4.30	1.55	3750	..
1905.....	.13	15.00	4.80	10.20	.0034	.0117	.0093	.0024	3.72	.348	.0002	.25	4.55	1.60	3458	..
1906.....	.04	16.30	5.70	10.60	.0016	.0057	.0049	.0008	3.56	.271	.0002	.07	4.75	1.50	8840	..
Jamestown,  Watson's Store—																
1902.....	.52	9.80	3.25	6.55	.0015	.0303	.0263	.0040	1.57	.143	.0000	.70	2.75	1.50	1451	..
1903.....	.81	7.65	2.65	5.00	.0035	.0373	.0328	.0045	1.13	.038	.0002	.91	2.25	1.45	2662	..
1904.....	.74	7.25	2.55	4.70	.0032	.0353	.0311	.0042	1.12	.022	.0001	.91	2.25	1.45	2036	..
1905.....	.65	7.90	2.80	5.10	.0056	.0316	.0248	.0068	1.24	.023	.0003	.76	2.55	1.70	1582	..
1906.....	.62	7.30	2.65	4.65	.0019	.0231	.0185	.0046	1.02	.015	.0001	.70	2.10	1.50	4316	..

\*Questionable.

†B. Coli + (to 0).

## Westerly Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Town of Westerly, the  
Sample being taken from the Pumping Station of the Westerly Water Works.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.				AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c. B. coli.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid			Chlorine.	As Nitrates.	As Nitrites.				
								Total.	In Solution.	In Suspension.							
Jan. 15.....	0	0	.00	5.30	1.20	4.10	.0004	.0004	.....	.....	.56	.052	.0000	.00	1.95	1.55	0 ..
Feb. 5.....	0	v sl.	.00	5.35	1.25	4.10	.0004	.0006	.....	.....	.54	.060	.0000	.02	1.95	1.60	0 ..
March 19.....	0	0	.00	4.90	1.30	3.60	.0004	.0012	.....	.....	.52	.050	.0000	.01	1.80	1.45	2 ..
April 16 ....	0	0	.00	4.95	1.15	3.80	.0004	.0005	.....	.....	.53	.060	.0000	.01	1.70	1.40	1 ..
May 15.....	0	0	.00	4.70	1.20	3.50	.0004	.0010	.....	.....	.55	.064	.0000	.00	1.75	1.40	2 ..
Yearly avg...	0	0	.00	5.05	1.20	3.85	.0004	.0008	.....	.....	.54	.057	.0000	.01	1.85	1.50	1 ..

NOTE.—Odor, none.

*Chemical and Bacteriological Examination of the Water Supply of the Town of Westerly, the  
Sample being taken from the Tap at the Drinking Fountain at the Railroad Station.*

Jan. 15.....	0	0	.00	4.70	1.00	3.70	.0004	.0004	.....	.....	.53	.056	.0000	.01	1.60	1.50	5 ..
Feb. 5.....	0	0	.00	5.35	1.45	3.90	.0004	.0004	.....	.....	.56	.064	.0000	.00	1.95	1.55	2 ..
March 19....	0	v. sl. iron.	.05	5.00	1.25	3.75	.0002	.0006	.....	.....	.53	.056	.0000	.01	1.60	1.40	88 ..
April 16.....	0	0	.00	4.70	1.15	3.55	.0004	.0004	.....	.....	.54	.072	.0000	.00	1.55	1.40	3 ..
June 5.....	0	0	.00	4.90	1.20	3.70	.0006	.0020	.....	.....	.53	.056	.0000	.00	1.70	1.40	12 0
July 10.....	0	0	.00	5.00	1.35	3.65	.0000	.0004	.....	.....	.53	.056	.0000	.01	1.60	1.50	11 0
Aug. 13.....	0	0	.00	5.40	1.70	3.70	.0000	.0002	.....	.....	.53	.056	.0000	.00	1.80	1.65	0 0
Sept. 4.....	0	0	.00	5.25	1.15	4.10	.0000	.0002	.....	.....	.52	.054	.0000	.00	1.80	1.55	2 ..
Oct. 1.....	0	0	.00	5.10	1.10	4.00	.0006	.0008	.....	.....	.53	.032	.0000	.02	1.70	1.60	1 0
Oct. 31.....	0	0	.00	5.70	1.25	4.45	.0004	.0012	.....	.....	.52	.056	.0000	.00	2.10	2.00	1 0
Dec. 6.....	0	0	.00	5.35	.85	4.50	.0002	.0008	.....	.....	.53	.053	.0000	.01	1.70	1.75	3 0
Yearly avg...	0	0	.00	5.10	1.20	3.90	.0003	.0007	.....	.....	.53	.056	.0000	.01	1.75	1.55	12 0

NOTE.—Odor, none.

## Westerly Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Town of Westerly,  
Giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of  
the Water at Different Points of the Supply.*

(Parts in 100,000.)

DATE OF COLLECTION.	Color.	RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.					Bacteria per c. c.	B. coli.		
		Total.	Loss on Ignition.		Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.	Oxygen Consumed.			Hardness.	Alkalinity.
			Total.	Fixed.		Total.	In Solution.	In Suspension.								
Westerly,																
Pumping Station—																
1902.....	0	5.20	.90	4.30	.0002	.0015	.....	.....	.57	.050	.0000	.00	1.95	1.50	33	..
1903.....	0	5.00	.80	4.20	.0001	.0013	.....	.....	.53	.049	.0000	.00	1.95	1.65	41	..
1904.....	0	5.05	.95	4.10	.0001	.0013	.....	.....	.54	.070	.0000	.00	2.05	1.60	27	..
1905.....	0	5.15	1.10	4.05	.0002	.0010	.....	.....	.54	.061	.0000	.00	1.95	1.65	2	..
1906 (Jan.-May) .....	0	5.05	1.20	3.85	.0004	.0008	.....	.....	.54	.057	.0000	.01	1.85	1.50	1	..
Westerly,																
Drinking Fountain—																
1902.....	0	5.10	.95	4.15	.0001	.0015	.....	.....	.57	.049	.0000	.00	1.95	1.50	58	..
1903.....	0	5.05	.85	4.20	.0001	.0015	.....	.....	.53	.049	.0000	.00	1.95	1.65	10	..
1904.. .....	0	5.05	1.00	4.05	.0000	.0012	.....	.....	.54	.071	.0000	.00	2.05	1.60	19	..
1905.....	0	5.10	1.10	4.00	.0001	.0010	.....	.....	.54	.061	.0000	.00	1.95	1.65	8	..
1906.....	0	5.10	1.20	3.90	.0003	.0007	.....	.....	.53	.056	.0000	.01	1.75	1.55	12	0



## East Providence Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Town of East Providence, the Sample being taken from the Ten-Mile River, at the Pumping Station at Hunt's Mills, the same being the influent to the Mechanical Filter Plant.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
								Total.	In Solution.	In Suspension.								
Jan. 4.....	dec.	sl.	.60	7.00	1.95	5.05	.0140	.0206	.0172	.0034	.70	.035	.0017	.76	1.55	.65	7006	..
Feb. 6.....	sl.	v. sl.	.45	6.30	1.95	4.35	.0060	.0160	.0146	.0014	.68	.020	.0015	.53	1.60	1.00	6138	..
Mar. 5.....	dec.	sl.	†.47	5.25	1.65	3.60	.0024	.0200	.0170	.0030	.50	.018	.0002	.63	1.45	.35	14570	..
April 4.....	sl.	sl.	.47	5.00	1.75	3.25	.0010	.0144	.0130	.0014	.51	.018	.0007	.63	1.45	.50	499	..
May 2.....	none.	v. sl.	.73	6.30	2.40	3.90	.0024	.0240	.0180	.0060	.57	.022	.0005	.78	1.75	.80	15369	..
June 5.....	v. sl.	sl.	1.20	6.45	2.75	3.70	.0102	.0332	.0292	.0040	.44	.018	.0015	1.10	1.95	.90	41	0
July 3.....	sl.	sl.	*.98 †.84	6.65	2.50	4.15	.0034	.0272	.0186	.0086	.46	.015	.0004	.82	1.80	1.20	1143	+
Aug. 1.....	sl.	cons.	*.78 †.66	7.30	2.80	4.50	.0020	.0326	.0224	.0102	.72	.008	.0003	.74	1.85	1.15	950	..
Sept. 4.....	dec.	cons. green.	*.60 †.50	8.10	2.00	6.10	.0014	.0266	.0210	.0036	1.02	.002	.0001	.53	1.95	1.25	1400	..
Oct. 2.....	none.	v. sl.	.45	7.75	1.95	5.80	.0090	.0170	.0138	.0032	.90	.015	.0004	.43	2.10	1.15	750	\$
Nov. 1.....	dec.	v. sl.	1.16	8.70	3.10	5.60	.0076	.0288	.0248	.0040	.90	.024	.0010	1.17	2.20	.80	4000	+
Dec. 6.....	dec.	v. sl.	.58	8.65	2.30	6.35	.0220	.0226	.0182	.0044	.88	.028	.0018	.73	2.20	.80	33000	+
Yearly avg....	dec. to sl.	sl.	.71	6.95	2.25	4.70	.0068	.0236	.0190	.0046	.69	.019	.0008	.74	1.80	.90	7700	+

NOTE.—Pres. + = Presumptive Positive. Odor generally distinctly vegetable. Miscellaneous micro-organisms present during the summer.

\*Unfiltered. †Filtered. ‡Poor color. \$B. Coli = Pres. +.

*Chemical and Bacteriological Examination of the Water Supply of the Town of East Providence, the Sample being from the Effluent of the Mechanical Filter, at Hunt's Mills.*

Jan. 4.....	0	0	.04	7.00	1.00	6.00	.0146	.0070	.....	.....	.73	.035	.0017	.13	1.70	.70	320 ..
Feb. 6.....	0	0	.03	6.90	1.15	5.75	.0058	.0044	.....	.....	.70	.042	.0014	.08	1.80	.95	58 ..
Mar. 5.....	0	0	.04	5.55	.60	4.95	.0020	.0050	.....	.....	.52	.018	.0002	.14	1.10	.55	103 ..
April 4.....	0	0	.03	6.10	1.00	5.10	.0006	.0046	.....	.....	.55	.025	.0008	.11	1.45	.80	14 ..
May 2.....	0	0	.04	6.65	1.40	5.25	.0010	.0056	.....	.....	.58	.022	.0004	.12	1.65	.60	186 ..
June 5.....	0	0	.07	6.90	1.20	5.70	.0106	.0088	.....	.....	.49	.022	.0015	.15	1.80	.30	6 0
July 3.....	0	0	.07	6.80	1.00	5.80	.0035	.0076	.....	.....	.60	.014	.0004	.12	1.70	.90	1 0
Aug. 1.....	0	0	.06	7.60	1.75	5.85	.0010	.0038	.....	.....	.70	.013	.0003	.15	1.80	.70	1 0
Sept. 4.....	0	0	.05	8.30	1.30	7.00	.0014	.0074	.....	.....	1.02	.002	.0000	.13	2.15	.60	22 ..
Oct. 2.....	0	0	.03	8.15	1.20	6.95	.0086	.0060	.....	.....	1.00	.018	.0004	.12	2.00	.95	..... 0
Nov. 1.....	0	0	.10	9.10	1.55	7.55	.0068	.0112	.....	.....	.89	.022	.0009	.26	2.35	.90	0 0
Dec. 6.....	0	0	.08	8.95	1.40	7.55	.0220	.0086	.....	.....	.96	.060	.0017	.17	2.35	.75	450 0
Yearly avg....	0	0	.05	7.30	1.20	6.10	.0065	.0071	.....	.....	.73	.025	.0008	.14	1.80	.75	105 0

NOTE.—Odor generally faintly vegetable. All samples gave negative tests for "alum" except those of June 5 and Dec. 6. June 5 = +. Dec. 6 = + (trace).



## East Providence Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Town of East Providence, Giving the Average for the Years 1902-1906, Grouped for Comparison of the Quality of the Water at Different Points of the Supply.*

(Parts in 100,000.)

DATE OF COLLECTION.	Color.	RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. e.	B. coli.	
		Total.	Loss on Ignition.		Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
			Fixed.	Total.		In Solution.	In Suspension.									
East Providence, River at Pumping Station—																
1902.....	.50	6.25	1.85	4.40	.0066	.0222	.0191	.0031	.67	.024	.0006	.65	1.90	.85	1925 ..	
1903.....	.52	6.95	1.90	5.05	.0078	.0225	.0195	.0030	.74	.033	.0006	.56	2.15	.95	4900 ..	
1904.....	.61	7.60	2.20	5.40	.0156	.0254	.0211	.0043	.85	.051	.0011	.64	2.35	1.10	7600 ..	
1905.....	.60	7.65	2.15	5.50	.0126	.0263	.0199	.0064	.92	.036	.0009	.66	2.20	1.20	15800 ..	
1906.....	.71	6.95	2.25	4.70	.0068	.0236	.0190	.0046	.69	.019	.0008	.74	1.80	.90	7700 +	
East Providence, Outlet of Mechanical Filter—																
1902.....	.06	6.00	1.25	4.75	.0059	.0077	.....	.....	.64	.022	.0006	.19	2.20	.10	51 ..	
1903.....	.04	6.65	1.20	5.45	.0072	.0074	.....	.....	.75	.032	.0006	.14	2.30	.50	115 ..	
1904.....	.08	7.25	1.30	5.95	.0156	.0096	.....	.....	.83	.049	.0011	.18	2.45	.65	230 ..	
1905.....	.07	7.15	1.25	5.90	.0120	.0083	.....	.....	.90	.040	.0008	.16	2.25	.65	150 ..	
1906.....	.05	7.30	1.20	6.10	.0065	.0071	.....	.....	.73	.025	.0008	.14	1.80	.75	105 0	

1902 percentage removal of color, 88.0%; bacteria, 97.4%.

1903 " " :— " 92.3%; " 97.7%.

1904 " " :— " 86.9%; " 97.0%.

1905 " " :— " 88.3%; " 99.1%.

1906 " " :— " 93.0%; " 98.6%.

## New Shoreham Water Supply.

*Chemical and Bacteriological Examination of the Water Supply of the Town of New Shoreham,  
the Sample being taken from Sands' Pond, at the Intake.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. Coli.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.					
								Total.	In Solution.	In Suspension.								
Jan. 8.....	v. sl.	v. sl.	.20	7.75	2.15	5.60	.0020	.0166	.0154	.0012	2.66	.017	.0000	.12	1.65	.70	33	
Feb. 5.....	v. sl.	sl.	.17	7.90	3.20	4.70	.0020	.0206	.0176	.0030	2.16	.010	.0002	.16	1.60	.55	115	
Mar. 6.....	dec.	sl.	.40	7.90	3.20	4.70	.0024	.0258	.0208	.0050	2.04	.013	.0000	.14	1.45	.55	25	
Apr. 12.....	sl.	cons. *	.30	7.80	2.45	5.35	.0024	.0194	.0154	.0040	2.22	.012	.0000	.16	1.50	.45	23	
April 30.....	v. sl.	v. sl.	.20	8.05	2.00	6.05	.0018	.0180	.0138	.0042	2.38	.016	.0001	.16	2.35	.70	1087	
July 24.....	v. sl.	cons.	†.15 +.05 +.13	9.00	2.30	6.70	.0012	.0162	.0108	.0054	2.52	.003	.0000	.14	1.60	.95	1000	0
Aug. 21.....	none.	sl.	†.13 +.04	8.75	2.70	6.05	.0004	.0132	.0094	.0038	2.44	.001	.0000	.12	1.55	.65	47	0
Sept. 25.....	v. sl.	v. sl.	.08	8.20	2.75	5.45	.0024	.0136	.0104	.0032	2.64	.003	.0000	.12	1.90	.25	31	0
Oct. 25.....	none.	sl. *	.09	7.20	1.40	5.80	.0028	.0136	.0120	.0016	2.54	.005	.0000	.11	2.20	.70	3700	0
Nov. 20.....	none.	none. *	.07	7.60	1.65	5.95	.0014	.0116	.0104	.0012	2.72	.005	.0000	.11	1.45	.50	85	0
Dec. 18.....	sl.	v. sl. *	.15	7.80	1.40	6.40	.0016	.0152	.0120	.0032	2.66	.004	.0000	.12	1.70	.75	550	0
Yearly av . .	v. sl.	sl.	.18	8.00	2.30	5.70	.0019	.0167	.0135	.0032	2.45	.008	.0000	.13	1.75	.60	600	0

NOTE.—Odor generally faintly to distinctly vegetable to unpleasant (micro-organisms.) Micro-organisms mostly cyanophyceae often present, especially in winter months.

\*Also many crustaceans.

†Unfiltered.

‡Filtered.

*Chemical and Bacteriological Examination of the Water Supply of the Town of New Shoreham  
Giving the Average for the Years 1902–1906.*

New Shoreham, Sands' Pond—																	
1902.....	7.10	9.80	2.40	7.40	.0060	.0340	.0259	.0081	3.09	.018	.0000	.35	2.25	1.05	2004	..	..
1903.....	.19	8.35	1.60	6.75	.0016	.0191	.0172	.0019	2.66	.013	.0000	.15	2.10	1.15	2620	..	..
1904.....	.14	8.65	2.25	6.40	.0042	.0292	.0233	.0059	2.74	.014	.0000	.18	2.15	1.30	2720	..	..
1905.....	.25	8.70	2.30	6.40	.0081	.0296	.0220	.0076	2.77	.017	.0004	.23	1.85	1.35	20925	..	..
1906.....	.18	8.00	2.30	5.70	.0019	.0167	.0135	.0032	2.45	.008	.0000	.13	1.75	.60	600	0	0

?One sample very poor in color—not in avg.

## Manville Water Supply.

*Chemical and Bacteriological Examination of Water from Brook just before Entrance of Water from Spring.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.							
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.	Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
								Total.	In Solution.	In Suspension.							
Jan. 23. ....	none.	sl.	.95	5.80	2.70	3.10	.0014	.0210	.0188	.0022	.37	.003	.0000	1.11	1.20	0.25	2418
Feb. 12. ....	v. sl.	cons.	1.00	6.35	3.05	3.30	.0024	.0270	.0214	.0056	.48	.007	.0000	1.34	1.75	0.30	4898
Mar. 27. ....	dec.	cons.	*.45	4.75	1.75	3.00	.0024	.0204	.0156	.0048	.37	.008	.0001	.60	.65	0.40	28647
April 24. ....	none.	cons.	1.40	5.50	3.00	2.50	.0052	.0324	.0280	.0044	.32	.003	.0000	1.53	.70	0.30	808
Average. ....	sl.	cons.	.95	5.60	2.60	3.00	.0029	.0254	.0210	.0044	.39	.005	.0000	1.15	1.10	0.30	9193

\*Turbid.

Odor decidedly vegetable and earthy.

### *Chemical and Bacteriological Examination of Water from Spring (Colwell's).*

Jan. 23. ....	none.	v. sl.	.00	7.00	2.45	4.55	.0004	.0006	.....	.....	.92	.185	.0000	.01	2.75	.95	10
Feb. 12. ....	none.	none.	.00	6.75	2.35	4.40	.0002	.0004	.....	.....	.92	.210	.0000	.01	2.60	.90	25
Mar. 27. ....	none.	v. sl.	.00	5.80	2.20	3.60	.0008	.0022	.....	.....	.79	.148	.0000	.10	1.85	.90	302
April 24. ....	none.	v. sl.	.00	5.70	1.50	4.20	.0004	.0024	.....	.....	.72	.136	.0000	.02	1.75	.90	32
Yearly avg. ....	none.	v. sl.	.00	6.30	2.10	4.20	.0005	.0014	.....	.....	.84	.170	.0000	.04	2.25	.40	92

Odor none.

### *Chemical and Bacteriological Examination of Water from Small Storage Reservoir.*

Feb. 12. ....	none.	sl.	.20	6.05	1.85	4.20	.0018	.0064	.0056	.0008	.70	.076	.0000	.24	1.90	0.80	80
Mar. 27. ....	sl.	v. sl.	.19	4.80	1.70	3.10	.0014	.0072	.0068	.0004	.52	.046	.0000	.24	1.25	0.70	2777
April 24. ....	none.	v. sl.	1.20	4.90	2.30	2.60	.0016	.0216	.0208	.0008	.40	.018	.0000	1.15	1.45	0.55	920
Yearly avg. ....	v. sl.	v. sl.	.53	5.25	1.95	3.30	.0016	.0118	.0111	.0007	.54	.047	.0000	.54	1.55	0.70	1259

Odor distinctly vegetable.

## Manville Water Supply.

*Chemical and Bacteriological Examination of Water from a Tap in the Village.*

(Manville Co. Supply.)

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITROGEN			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
								Total.	In Solution.	In Suspension.								
May 22. ....	none.	none.	.12	5.80	2.05	3.75	.0010	.0038	.0038	.0000	.43	.076	.0001	.10	2.35	1.10	177	
June 13. ....	none.	sl.	.05	5.50	2.15	3.35	.0014	.0030	.0030	.0000	.60	.090	.0003	.05	1.95	1.15	138	
July 25. ....	none.	v. sl.	.05	7.30	2.55	4.75	.0010	.0026	.0022	.0004	.72	.125	.0001	.04	1.85	1.30	?	
Aug. 21. ....	none.	v. sl.	.05	6.80	2.35	4.45	.0006	.0020	.0016	.0004	.60	.062	.0000	.04	1.70	1.20	500	
Sept. 18. ....	none.	v. sl.	.03	7.20	2.35	4.85	.0006	.0016	.0016	.0000	.90	.104	.0002	.03	2.35	1.55	43	
Oct. 2. ....	none.	v. sl.	.13	7.70	2.55	5.15	.0006	.0064	.0064	.0000	.92	.048	.0000	.18	2.65	1.40	400	
Oct. 31. ....	none.	v. sl.	.66	6.45	2.30	4.15	.0018	.0140	.0136	.0004	.72	.030	.0000	.72	2.15	1.00	1400	
Dec. 5. ....	none.	v. sl.	.47	7.15	2.35	4.80	.0026	.0102	.0102	.0000	.76	.060	.0000	.57	2.85	1.20	750	
Yearly avg. ....	none.	v. sl.	.20	6.75	2.35	4.40	.0012	.0055	.0053	.0002	.71	.074	.0001	.22	2.25	1.25	487	

Odor, none to distinctly vegetable.

\*B. Coli = Presumptive positive. †B. Coli + (occasionally 0.)

zCount 19,800; abnormally high, out of average.

## Pascoag Water Supply.

*Chemical and Bacteriological Examination of Water from the Deep Wells.*

(Parts per 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.	B. coli.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.						As Nitrites.
								Total.	In Solution.	In Suspension.								
*Aug. 6. ....	sl.	†sl.	+.08 \$.00	7.80	1.15	6.65	.0002	.0004	.0004	.0000	.26	.002	.0000	.02	2.40	3.50	3	
Aug. 13. ....	sl.	†cons.	+.10 \$.02	8.60	1.30	7.30	.0000	.0008	.0008	.0000	.34	.002	.0000	.02	2.65	3.60	1,000	
Sept. 17. ....	none.	none.	.00	9.10	1.10	8.00	.0000	.0006	.0006	.0000	.51	.005	.0000	.00	3.00	4.30	7	
Oct. 16. ....	v. sl.	v. sl.	.02	8.45	1.70	6.75	.0004	.0012	.0012	.0000	.42	.007	.0000	.00	2.80	4.00		
Nov. 12. ....	v. sl.	v. sl.	.09	9.65	1.75	7.90	.0000	.0006	.0006	.0000	.39	.005	.0000	.01	2.75	4.00	20	
Dec. 17. ....	none.	v. sl.	.02	8.20	1.20	7.00	.0006	.0008	.0008	.0000	.42	.003	.0000	.00	3.10	5.00	10	
Average. ....	v. sl.	v. sl.	.04	8.60	1.35	7.25	.0002	.0007	.0007	.0000	.39	.004	.0000	.01	2.80	4.05	208	

NOTE.—Odor, none.

\* First water pumped this year.

† Clay and iron.

‡ Unfiltered.

§ Filtered.

|| Count 24,000.

sample evidently contaminated in collection.

*Chemical and Bacteriological Examination of Water from a Tap in the Town.*

April 17. ....	v. sl.	none.	.12	2.45	.50	1.95	.0004	.0020	.....	.....	.22	.004	.0000	.10	.50	.50	70 ..
May 15. ....	v. sl.	none.	.05	3.65	.75	2.90	.0004	.0016	.....	.....	.22	.007	.0000	.05	1.00	1.30	liq. ..
June 11. ....	v. sl.	none.	.06	2.50	.60	1.90	.0006	.0016	.....	.....	.18	.002	.0000	.09	.50	.35	675 0
July 10. ....	none.	none.	.07	2.90	.65	2.25	.0000	.0014	.....	.....	.20	.005	.0000	.05	.50	.85	30 0
Aug 13. ....	v. sl.	none.	.10	4.40	1.10	3.30	.0000	.0018	.0018	.0000	.24	.002	.0000	.08	1.10	1.60	850 0
Sept. 17. ....	none.	none.	.03	7.65	1.05	6.60	.0000	.0000	.0000	.0000	.46	.004	.0000	.01	2.55	3.50	130 +
Oct. 16. ....	v. sl.	none.	.04	7.30	1.65	5.65	.0006	.0006	.0006	.0000	.40	.005	.0000	.00	2.60	3.40	120 *
Dec. 17. ....	v. sl.	none.	.03	6.90	1.00	5.90	.0004	.0008	.0008	.0000	.36	.002	.0000	.01	2.75	3.50	500 *
While Spring supply; Av..	v. sl.	none.	.07	2.85	.60	2.25	.0003	.0016	.....	.....	.20	.004	.0000	.07	.60	.75	258 0
Tap while mixed; Av...	v. sl.	none.	.05	6.55	1.20	5.35	.0002	.0008	.0008	.0000	.36	.003	.0000	.02	2.25	3.00	400 *

NOTE.—Odor, none. Spring supplies through July sample; August through December samples, supply was a mixture of deep wells and springs.

\*†B. Coli = Presumptive positive.

## State Sanatorium Supply.

*Chemical and Bactcriological Examination of Water from a Tap in the Sanatorium.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITROGEN.						
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.		Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.	Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
					Total.	Fixed.		Total.	In Solution.	In Suspension.							
July 17.....	dec.	sl.	*.20 †.15	3.60	1.30	2.30	.0008	.0070	.0042	.0028	.16	.000	.0000	.23	1.20	1.50	0
Dec. 17.....	dec.	sl.	.13	2.70	0.75	1.95	.0012	.0070	.0070	.0000	.18	.000	.0000	.21	0.80	0.90	15
Average.....	dec.	sl.	.17	3.15	1.00	2.10	.0010	.0070	.0056	.0014	.17	.000	.0000	.22	1.00	1.20	8

Odor very faintly vegetable to unpleasant. Miscellaneous mirco-organisms present in the December sample.

\*Unfiltered.      †Filtered.



*Averages of Results of Chemical and Bacteriological Examinations of all the Water Supplies  
in the State for the Year 1906.*

(Parts in 100,000.)

	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.				
								Total.	In Solution.	In Suspension.							
Petta'n't (Prov.).	sl. to dec.	cons.	.54	5.05	1.75	3.30	.0015	.0195	.0149	.0046	.38	.006	.0003	.67	.90	.60	2000
Washin'n (Prov.)	v. sl.	v. sl.	.55	3.70	1.45	2.25	.0022	.0140	.0126	.0014	.28	.001	.0000	.60	.35	.55	478
Hope (Prov.)....	v. sl.	v. sl.	.49	3.40	1.35	2.05	.0015	.0130	.0118	.0012	.26	.003	.0000	.57	.50	.45	493
Lab. Tap (Prov.).	none	v. sl. to none.	.32	4.45	1.35	3.10	.0014	.0099	.0091	.0008	.39	.008	.0001	.39	1.10	.80	50
P. V. Water Co..	v. sl.	v. sl.	.29	3.60	1.35	2.25	.0019	.0155	.0131	.0024	.32	.004	.0000	.32	.70	.75	230
Knight's Spring..	none.	none.	.00	6.15	2.40	3.75	.0004	.0012	.....	.....	.76	.226	.0000	.00	1.85	.40	215
Coventry Water Co.....	v. sl.	v. sl.	.19	2.20	.55	1.65	.0009	.0054	.0051	.0003	.30	.001	.0000	.06	.50	.45	32
E. Greenwich....	none.	v. sl.	.42	4.30	1.45	2.85	.0009	.0088	.0079	.0009	.37	.007	.0000	.44	1.05	.95	40
Woon. Res. 3....	sl. to v. sl.	sl. to cons.	.40	3.05	1.35	1.70	.0024	.0209	.0154	.0055	.24	.001	.0000	.51	.35	.20	226
" P. Sta.....	v. sl.	v. sl.	.59	3.70	1.60	2.10	.0022	.0153	.0146	.0097	.29	.004	.0000	.62	.65	.45	218
" Supt's. Office.	v. sl.	v. sl.	.67	4.35	1.80	2.55	.0021	.0175	.0151	.0024	.29	.004	.0000	.59	.70	.55	251
Pawt., P. Sta. 3.	v. sl.	v. sl.	.33	4.10	1.40	2.70	.0018	.0113	.0105	.0008	.33	.007	.0001	.34	1.15	.95	395
" Di'm'd Hill Res.....	v. sl.	sl.	.28	3.25	1.20	2.05	.0017	.0148	.0131	.0017	.31	.001	.0000	.41	.70	.40	54
" Sneech P'd Brook....	none.	v. sl.	.42	4.40	1.55	2.85	.0017	.0121	.0111	.0010	.31	.002	.0000	.49	1.25	.75	474
" Tap, City En. Office.	v. sl.	v. sl.	.35	4.45	1.60	2.85	.0012	.0112	.0109	.0003	.35	.008	.0000	.36	1.30	1.10	279
Bristol & Warren P. Sta.....	sl.	sl.	1.15	6.55	3.05	3.50	.0030	.0302	.0266	.0036	.62	.003	.0000	1.27	1.45	.60	1075
Bristol & Warren Tap. Bristol...	sl.	cons.	1.17	6.65	3.00	3.65	.0029	.0304	.0255	.0049	.63	.004	.0000	1.26	1.45	.65	1217
Narrag., P. Sta..	v. sl.	v. sl.	.86	4.85	2.00	2.85	.0026	.0172	.0152	.0020	.61	.005	.0000	.82	.65	.40	463
Narrag., Tap, Of.	v. sl.	v. sl.	.83	4.85	2.00	2.85	.0014	.0152	.0135	.0017	.60	.007	.0000	.80	.70	.40	179
" Gladstone Spring..	none.	none.	.00	7.75	2.00	5.75	.0004	.0003	.....	.....	1.39	.088	.0000	.00	2.00	1.10	4
Newp't, Easton's Pond.....	sl.	cons.	.32	8.45	2.75	5.70	.0061	.0435	.0288	.0147	1.47	.028	.0006	.58	2.65	1.45	117
Newp't, Eng. Cottage.....	v. sl.	sl.	.26	8.60	3.00	5.60	.0090	.0319	.0266	.0053	1.64	.021	.0003	.44	2.55	1.60	1430

*Averages of Results of Chemical and Bacteriological Examinations of all the Water Supplies in the State for the year 1906.—Concluded.*

(Parts in 100,000.)

	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.			Oxygen Consumed.	Hardness.	Alkalinity.	Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.				
								Total.	In Solution.	In Suspension.							
Newport, Tap, City Hall.....	sl.	sl.	.26	9.10	3.25	5.85	.0057	.0301	.0250	.0051	1.69	.022	.0003	.43	2.90	1.90	1505
Jamestown, No. P. Station.....	v. sl.	v. sl.	.66	6.45	2.60	3.85	.0029	.0272	.0231	.0041	.97	.012	.0000	.81	1.60	.70	1089
Jamestown, So. P. Station.....	none to v. sl.	v. sl.	.04	16.30	5.70	10.60	.0016	.0057	.0049	.0008	3.56	.271	.0002	.07	4.75	1.50	8840
Jamestown, Wat-son's store....	v. sl.	sl.	.62	7.30	2.65	4.65	.0019	.0231	.0185	.0046	1.02	.015	.0001	.70	2.10	1.50	4316
Westerly, P. Sta.	none.	none.	.00	5.05	1.20	3.85	.0004	.0008	.....	.....	.54	.057	.0000	.01	1.85	1.50	1
Westerly Drink- ing Fountain..	none.	none.	.00	5.10	1.20	3.90	.0003	.0007	.....	.....	.53	.056	.0000	.01	1.75	1.55	12
East Prov. Ten Mile River....	dec. to sl.	sl.	.71	6.95	2.25	4.70	.0068	.0236	.0190	.0046	.69	.019	.0008	.74	1.80	.90	7700
East Prov. Outlet of Fillers. ....	none.	none.	.05	7.30	1.20	6.10	.0065	.0071	.....	.....	.73	.025	.0008	.14	1.80	.75	105
New Shoreham, Intake.....	v. sl.	sl.	.18	8.00	2.30	5.70	.0019	.0167	.0135	.0032	2.45	.008	.0000	.13	1.75	.60	600
Manville Brook, before spring..	sl.	cons.	.95	5.60	2.60	3.00	.0029	.0254	.0210	.0044	.39	.005	.0000	1.15	1.10	.30	9193
Manville, Spring (Colwell).....	none.	v. sl.	.00	6.30	2.10	4.20	.0005	.0014	....	.....	.84	.170	.0000	.04	2.25	.40	92
Manville, Small Storage Res....	v. sl.	v. sl.	.53	5.25	1.95	3.30	.0016	.0118	.0111	.0007	.54	.047	.0000	.54	1.55	.70	1259
Manville, Tap in Village.....	none.	v. sl.	.20	6.75	2.35	4.40	.0012	.0055	.0053	.0002	.71	.074	.0001	.22	2.25	1.25	487
Pascoag, Deep Wells.....	v. sl.	v. sl.	.04	8.60	1.35	7.25	.0002	.0007	.0007	.0000	.39	.004	.0000	.01	2.80	4.05	208
Pascoag, Tap, while Spring Supply.....	v. sl.	none.	.07	2.85	.60	2.25	.0003	.0016	.....	.....	.20	.004	.0000	.07	.60	.75	258
Pascoag, Tap, while Mixed Supply.....	v. sl.	none.	.05	6.55	1.20	5.35	.0002	.0008	.0008	.0000	.36	.003	.0000	.02	2.25	3.00	400
State Sanatorium, Tap.....	dec.	sl.	.17	3.15	1.00	2.10	.0010	.0070	.0056	.0014	.17	.000	.0000	.22	1.00	1.20	8

## EXAMINATION OF RAW AND TREATED SEWAGES.

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One of the most difficult problems presented for solution is the disposal of sewage wastes by cities, towns, and large institutions.

Few inland towns are so located as to make it possible to discharge their crude sewage into a nearby flowing stream or a large body of water.

In most cases, unless the wastes can be discharged into the ocean, it is necessary that the sewage shall be treated some way before being finally disposed of or a nuisance will be created sooner or later which will demand attention.

In England and Germany, and in many of our own States, notably in Massachusetts, much study has been given to the investigation and management of sewage disposal plants, and the boards of health are in a position to give advice to any town desirous of correcting its unsanitary conditions.

Inasmuch as no two towns have the same character of sewage, it is often necessary to utilize a slightly different form of treatment for each.

The population of the town, the character and habits of the population, the introduction of manufacturing wastes, the presence of an ample supply of water, the utilization of the common sewage system for the removal of surface water, all have an influence and may modify materially the density and the composition of the sewage.

The State of Massachusetts has for many years maintained a continuous study of these variable factors, publishing the results of their investigations yearly. As the towns of our neighboring State are constituted much like our own cities and villages, a study of these reports is of valuable assistance. With the same end in view, this Board has, with its facilities for chemical and bacteriological analyses,

undertaken to determine the varying conditions attending the disposal of sewage wastes of those cities in the State which have made an effort to purify their sewage before final disposal. At the present time this includes the cities of Pawtucket, Woonsocket, Central Falls, and Providence.

All of these cities, realizing that to dispose of their crude sewage by delivering it untreated into streams near them would sooner or later call for censure, have made provision to meet the existing conditions.

During the year a sewage disposal plant was completed and put in operation at the State Sanatorium. While the plans and method of treatment installed did not receive the recommendation of the State Board of Health, yet the claims made for its effectiveness and the fact that it was established and was being used necessitated a study of its value and the results of the treatment of the sewage before it was allowed to flow into the small brook near the Sanatorium. As this brook feeds a large ice pond near the town of Pascoag, lack of satisfactory purification of the sewage might make it possible that the pond would become polluted in time to the extent of producing a nuisance or if too grossly polluted might endanger the ice crop cut from the pond.

The system as installed consisted of a series of small tanks through which the inflowing sewage first passed and flowed from tank to tank by a syphon arrangement from the top of one tank to the top of the next, anticipating that a certain amount of sediment would settle to the bottom of each small tank. Following these tanks was a roughing filter filled with coarse stone, and after this a flush tank from which the sewage was to flow automatically onto the beds in intermittent doses. The mechanism which controlled this flow was out of commission a large part of the time, and the sewage consequently flowed continuously onto the filter. To take care of the accumulated sludge in the tanks the sediment was drawn off on to a filter, which consisted of a layer of coal over stones. The idea was that after a considerable quantity of the sludge had accumulated

on this bed the upper layer of coal was to be taken off with the sludge and the whole burned in the incinerator which was in the same building, and new coal put onto the sludge filter.

The main filter bed consisted of what was practically one filter on top of another, the two filters being separated by inverted half drain pipes, through which a current of air was introduced into the filter by means of a pipe extending out of the side of the retaining walls. Each of the two parts of the filter consisted of the main filtering media or sand with an effective size of .28mm. and a uniformity co-efficient of 3.7, overlying a layer of gravel in which the half pipe was laid. Directly under this layer of pipe and gravel was another depth of sand similar to the upper layer and under this another layer of gravel and underdrain pipe. Nominally the bed was in three sections, each 10 feet wide and 35 feet long, but as a matter of fact the entire bed was practically one, for the separation of the three beds was accomplished by a board partition which extended into the bed only about a foot. The only function of this partition seemed to be that, on the surface at least, the sewage could be distributed first on one section and then onto the other, but the partition extended so slightly into the bed that necessarily most of the bed was filled with sewage all the time.

The effluent from the plant was discharged through a ditch onto the ground in a clump of woods by the side of the stream and either percolated, or in case of the ground being frozen, flowed more or less directly into the brook. Soon after the commencement of the operation of the plant the surface of the filtering media became clogged and a small quantity of the sewage only, could pass through the filter. It was therefore necessary to allow a large proportion of the crude sewage to flow off over the top of the bed where it found its way into the ditch without filtration.

As is shown in the table presenting the analyses of the samples taken from the plant, there was a very decided removal of organic matter from that part of the sewage which actually went through the beds, although there did not seem to be much oxidation of the nitrogen



as shown by the formation of nitrites or nitrates. Regardless of the results obtained on the samples taken from the bottom of the filter the plant soon became a nuisance on account of its inability to handle more than a very small part of the sewage flow, as mentioned above, due to clogging of the surface, and the only way the plant could be put back into commission again was by discontinuing its use altogether, by-passing the sewage untreated until a general cleaning of the surface of the beds could be effected, which improvement would only last a short time before the same difficulties were again in evidence.

By periodical examination of the crude sewage at each plant, and of the effluent, or sewage which has been treated by the various processes of sedimentation, septic tanks, filtration, or by chemicals, it has been possible to determine the effectiveness of each process.

The Board has thus been in a position to advise the engineering departments of the different cities in what way greater efficiency in purification might be attained. This information has been acted upon in many cases, and the several engineers have a full understanding of the value of each portion of their plant in the treatment of their own particular sewage.

The city of Pawtucket in 1894 installed a filtration system for the treatment of the sewage received from the portion of the city known as the Moshassuck river drainage area. The balance of the sewage is discharged untreated into the Blackstone river.

This system consists of two tanks, 100 feet long, 30 feet wide, and 3 feet deep. One of these tanks is allowed to fill and the solids to settle. The supernatant fluid is allowed to flow upon sand filter beds as soon as a tank becomes filled. The second tank is then utilized in the same way. The filter beds consist of 16 beds of carefully selected sand of proper size for the purpose of filtering sewage.

The beds are flowed or dosed in rotation permitting of a period of rest and oxidation or nitrification of the sewage material which has been caught in the beds. After several months of use the surface



of the beds for a depth of a fraction of an inch is scraped off and in time this is replaced with new sand.

Only plain sedimentation in the tanks has been used this year at this plant, the septic process which has been tried before having been abandoned, the difficulty and expense of removing and disposing of the sludge not being compensated by the amount of reduction of organic matter by the septic process as against plain sedimentation.

For a number of years, during the winter months, the sewage has been subjected to a combination of screening and grit chamber treatment by intercepting the flow with coarse slats, forming a screen at the outlet side of a sump-well. Behind these slats the gross particles of the sewage and the largest part of the grit from street-wash is caught and settle out and are retained in the pit on the near side of the slats. This pit is emptied every week and the material buried in a sand-bank near the sewage plant.

At times during the past few years an attempt has been made to measure the efficiency of this treatment by sampling the inflow and outflow of the screen tanks or pits. The results have been so unsatisfactory, at times showing negative results due to variable flow in the sewers from hour to hour, that during the last two months of last year it was suggested by the chemist of this Board to measure the efficiency by actually determining the amount of suspended material held back by the screens, by sampling the collected material when emptying the pit. The amount of material was determined in terms of the number of pounds of suspended matter removed per million gallons of sewage which had passed the screens. The proportion of these suspended solids which was volatile on ignition, and the proportion which was non-volatile, was also determined. The results obtained were quite interesting\* and this work was continued during a part of this year, and gave results in line with those obtained the year before.

During the spring it was found that certain of the beds at this plant acted sluggishly, failing to drain rapidly. At the same time

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\*See page 40, Report of 1905.

there was observed a greenish mossy like growth upon the surface of the sand. This growth increased with great rapidity until the whole surface of the bed was covered. The growth not only increased in area, but in thickness and darkened in color, until finally an impervious tough, rubber-like coating was formed, making the bed impervious to water.

Upon microscopical examination of this growth by the chemist of the Board it was determined that this formation was the result of the growth of a filamentous "blue-green" algæ, called *oscillaria*. This micro-organism forms in filaments which, growing in every direction and interlacing, produce a dense net work or mat which is very tenacious.

Upon inspection by the city engineer of Pawtucket it was ascertained that this growth had further extended into the main distributors through which the sewage was carried to the several beds and had spread over all the beds so that they were practically out of commission. To dispose of this formidable blanket appeared to be a difficult matter, for although the surface of the bed might be scraped, a new coating formed in a very short time. Resort was made to the use of copper sulphate in doses recommended by the chemist. While application of this copper solution to the flow of sewage as it went onto the surface of the beds would remove the growth for a time, yet it was necessary to treat the pipes with a stronger dose to be sure that the difficulty would be overcome. A detailed description of the methods employed will be found later in this report.

Prior to this invasion of the beds by the *oscillari* growth, during the course of experiments to destroy it, and at regular periods thereafter, samples from each of the beds were tested for color, nitrates and nitrites to keep track of the condition of the effluents from the individual beds as to appearance and as to nitrification. These results are to be found on the records of the laboratory and are not reproduced here.

The plant has been operated by the City Engineer Mr. George A. Carpenter. With his co-operation the laboratory of this department

has been enabled during the years past, to obtain a profitable understanding of the efficiency of the various methods of treatment of the Pawtucket sewage.

The data acquired is also of use in assisting other cities and towns which are now using, or may in the future be obliged to use, some means of purification.

A detailed account, with data on the operation of this plant, will be found in the report of the city engineer of Pawtucket, on pages 42-47 of this report. The analyses made by this Board are given in the tables following.

At Central Falls where similar tanks are utilized for the treatment of the sewage, the septic process was continued until May 28th. From that time to about October 1st the sewage was subjected to simple settling before filtration, but for the remainder of the year the septic tank was in use again.

Since July, in order to more surely get representative samples, the samples of the sewage in its different stages prior to filtration have been taken as composite samples, the samples of crude or septic sewage being hourly composites through the day-time and the settled or settled septic samples being quarter-hour composites while discharging onto beds. The sample from the beds has been taken from the main underdrain.

The samples in October, November, and December were twenty-four hour composites in the case of the crude and septic sewage. The December sample of the crude sewage as recorded in the tables is the average of two samples collected, one in the daytime and the other at night.

An account of work done at this plant may be found upon pages 31-35 of this report, being a portion of the report of C. M. Franklin, city engineer. The analyses made by this Board will follow in the tables.

The method of disposal of the sewage from the city of Woonsocket is to receive the flow in a sedimentation gallery or dosing tank, from which it goes on to the several beds prepared for that purpose. For

extracts from City Engineer F. H. Mills' report, see pages 93 and 94 in this report. The results of the regular analyses made by this department are given in the tables following. The greatest fault to be found with this plant is the fact that twice during the year the beds are all discontinued, while cleaning and scraping, instead of continuing all but one bed and cleaning that.

Comparison of the different sewages as received for treatment shows that the heaviest sewage is supplied by the city of Central Falls, the next heaviest sewage is supplied by the city of Pawtucket, and the least concentrated are those from Woonsocket and Providence.

The city of Providence, having such a large amount of sewage to be disposed of, treats the same by chemical precipitation. The strength of the sewage in organic matter is about the same as that of Woonsocket.

The sewage is mixed with measured quantities of lime and sulphate of iron while flowing through the main outfall sewer. It then passes into large deep cement basins, where the coagulated sewage and chemicals settle or precipitate. The supernatant liquor is then flowed into other tanks for further sedimentation. The accumulated sediment or sludge is flowed into a sump-well, pumped into sludge basins, and further condensed. The sludge obtained is forced into presses and the water squeezed through canvas cloth. The somewhat dry cake resulting is carried by means of a small tramway to sand pits and there dumped. The sludge has no value as a fertilizer. This is the fifth full year of the operation of this plant, the precipitation work having been begun in April, 1901. An abbreviated account of the working of this plant, as given in the report of City Engineer Otis F. Clapp, will be found on pages 52 and 53 of this report. Analyses of the crude sewage and of the effluent leaving the precipitation tanks are given in the following tables. This Board began to make these analyses as part of its routine examinations in April, 1904.

The results shown in the following tables offer an opportunity for study of the efficiency of methods of treatment sewage which might be utilized to improve the character of the same before being discharged into streams.

## Central Falls Sewage.\*\*

*Chemical and Bacteriological Examination of the Sewage of the City of Central Falls, the sample being taken from the well before entering tanks.*

(Parts per 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPORATION.			AMMONIA.			Chlorine.	NITRO- GEN.		Oxygen Consumed.	Bacteria per c. c.	
	Turbidity.	Sediment.	Color.	Total.	In Solution.	In Suspension.	Free.	Albuminoid.			As Nitrates.	As Nitrites.			
								Total.	In Solution.						In Suspension.
Jan. 9.....				191.4	63.0	128.4	13.80	3.94	1.40	2.54	13.0		34.00	11,170,000	
Feb. 19.....				373.0	206.0	167.0	14.90	5.60	2.15	3.45	67.0		55.00	33,480,000	
Mar. 22.....				296.0	34.0	262.0	6.12	4.60	.50	4.10	5.1		40.40	15,900,000	
April 18.....				124.6	71.6	53.0	22.20	2.74	1.19	1.55	16.2		23.70	17,160,000	
May 21.....				403.6	371.4	32.2	18.62	3.60	2.65	.95	176.0		25.00	16,990,000	
June 25.....				179.0	123.0	56.0	8.86	2.18	1.02	1.16	39.2		17.50	14,950,000	
July 31.....				197.0	138.0	59.0	7.74	1.88	1.00	.88	44.0		18.60	14,900,000	
Aug. 29.....				218.0	161.0	57.0	8.10	2.16	.88	1.28	63.4		18.80	1,000,000	
Sept. 26.....				148.0	110.0	38.0	10.60	1.94	.94	1.00	32.4		16.40	11,900,000	
Oct. 24, 25.....				129.0	92.0	37.0	9.26	1.68	1.20	.48	26.8		16.20	14,000,000	
Nov. 19, 20.....				169.0	120.0	49.0	9.76	2.40	1.24	1.16	32.8		17.50	14,000,000	
*Dec. 18, 19.....				170.0	92.5	77.5	9.84	2.49	1.08	1.41	13.0		19.20	9,200,000	
Yearly average.....				216.6	131.9	84.7	11.65	2.93	1.27	1.66	44.1		25.20	14,500,000	

\*Average of day and night samples Dec. 18, and Dec. 18, 19.

\*\*See also pages 31-35 of this report.



## Central Falls Sewage.\*\*

*Chemical and Bacteriological Examination of the Sewage of the City of Central Falls, the sample being taken from the outlet of the septic tank.*

(Parts per 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPORATION.				AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	In Solution.	In Suspension.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.		
								Total.	In Solution.	In Suspension.					
Jan. 9. ....				147.0	109.6	37.4	14.07	1.50	1.01	.49	36.0	...	...	13.70	3,900,000
Feb. 19. ....				78.4	68.4	10.0	12.60	.73	.40	.33	17.0	...	...	6.60	1,380,000
Mar. 22. ....				96.4	69.6	26.8	14.20	1.30	.70	.60	15.4	...	...	13.30	4,150,000
April 18. ....				122.4	91.4	31.0	12.16	1.30	.65	.65	24.4	...	...	17.50	65,300,000
May 21. ....				86.2	54.4	31.8	7.72	1.11	.38	.73	16.6	...	...	11.40	1,720,000
Oct. 24, 25. .				115.0	95.0	20.0	9.92	1.20	.91	.29	28.4	...	...	10.60	18,900,000
Nov. 19, 20. .				128.0	101.0	27.0	11.32	1.80	1.12	.68	29.2	...	...	13.70	26,000,000
Dec. 18, 19. .				122.0	99.0	23.0	11.40	1.76	1.18	.58	16.6	...	...	13.40	3,500,000
Yearly av. ....				111.9	86.1	25.8	11.67	1.34	.79	.55	23.0	...	...	12.50	15,600,000

NOTE.—Septic tank cleaned May 28th, started again about October 1st.

*Chemical and Bacteriological Examination of the Sewage of the City of Central Falls, the sample being taken from the distributing well while discharging settled septic sewage.*

Oct. 25.....				116.0	97.0	19.0	10.26	1.28	1.00	.28	30.0	...	...	10.70	25,500,000
Nov. 20.....				130.0	110.0	20.0	12.10	1.60	1.06	.54	34.4	...	...	11.70	28,000,000
Dec. 19.....				108.0	88.0	20.0	10.14	1.70	.92	.78	16.4	...	...	12.40	28,000,000
Yearly av....				118.0	98.3	19.7	11.17	1.52	.99	.53	26.9	...	...	11.50	27,200,000

*Chemical and Bacteriological Examination of the Sewage of the City of Central Falls, the sample being taken from the distributing well while discharging settled sewage during time when septic tank was not in use.*

June 26.....				99.0	83.0	16.0	7.70	1.86	.67	1.19	22.8	...	...	8.50	4,900,000
Aug. 1.....				158.0	138.0	20.0	7.26	1.56	.88	.68	36.6	...	...	13.00	18,000,000
Aug. 30.....				131.4	115.6	15.8	9.14	1.08	.68	.40	37.6	...	...	11.40	600,000
Sept. 27.....				112.0	92.0	20.0	9.60	1.18	.78	.40	27.0	...	...	9.60	6,800,000
Yearly av....				125.1	107.1	18.0	8.42	1.42	.75	.67	31.0	...	...	10.60	7,500,000

\* See also pages 31-35 of this report.



## Central Falls Sewage.\*\*

*Chemical and Bacteriological Examination of the Sewage Effluent of the City of Central Falls, the sample being a mixture of the outlets from all the beds.*

(Parts per 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPORATION.			AMMONIA.				NITROGEN				Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.	Oxygen Consumed.	
								Total.	In Solution.	In Suspension.					
Jan. 9.....	dec.	sl.	*.50	46.4	11.6	34.8	3.60	.168	.146	.022	14.2	1.43	.0650	1.81	21,900
Feb. 19.....	sl.	v. sl.	*.40	31.5	7.1	24.4	2.20	.068	.062	.006	9.0	.76	.0300	.68	170,000
March 22.....	dec.	v. sl.	*.45	40.2	10.2	30.0	4.08	.144	.136	.008	12.0	1.03	.1100	1.39	75,900
April 18.....	dec.	sl.	*.50	49.3	12.3	37.0	2.76	.184	.120	.064	14.0	1.87	.1500	1.94	1,240,000
May 21.....	dec.	cons.	*.65	55.6	14.6	41.0	2.60	.214	.136	.078	15.4	1.85	.1700	2.52	20,000
June 26.....	dec.	cons.	†.70 ‡.58	58.0	9.5	48.5	2.80	.210	.105	.105	18.2	1.21	.0650	1.88	272,000
Aug. 1.....	dec.	cons. (floc.)	*.90	69.7	16.0	53.7	2.20	.098	.068	.030	22.2	1.18	.0540	1.14	81,000
Aug. 30.....	dec.	cons. (floc.)§	*.70	66.9	14.5	52.4	2.00	.096	.078	.018	22.0	1.48	.1000	1.35	.....
Sept. 27.....	sl.	cons. (floc.)	*.55	66.0	14.5	51.5	1.40	.060	.048	.012	21.0	2.70	.0350	.95	6,700
Nov. 20.....	dec.	sl.	*.80	56.3	8.4	47.9	4.24	.236	.170	.066	20.2	.24	.0200	2.46	1,100,000
Dec. 19.....	dec.	v. sl.	*.80	56.8	9.6	47.2	5.12	.260	.212	.048	18.0	.04	.0000	2.80	200,000
Yearly average.....	dec.	sl.	*.63	54.3	11.7	42.6	3.00	.158	.117	.041	16.9	1.25	.0730	1.72	318,800

\*\*See also pages 31-35 of this report.

NOTE.—Odor generally decidedly disagreeable and musty.

\*Turbid. †Unfiltered. ‡Filtered. §Iron.

*Chemical and Bacteriological Examination of Water taken from stream into which the Effluent of the Central Falls filter beds flows, the sample being taken from the stream at a point two hundred fifty feet below the city line.*

Jan. 9.....	sl.	sl.	*.70	31.2	9.2	22.0	1.10	.044	.040	.004	6.4	1.11	.0240	.70	14,900
Feb. 19.....	dec.	cons.‡	*.65	28.0	10.0	18.0	.30	.020	.014	.006	4.2	.61	.0080	.23	15,700
Mar. 22.....	dec.	cons.	*.35	39.4	11.2	28.2	1.36	.070	.046	.024	6.7	1.02	.0360	.67	18,700
April 18.....	dec.	sl.	*.45	29.6	9.4	20.2	.80	.056	.028	.028	5.3	.94	.0300	.54	Liq.
June 26.....	dec.	cons.	†.90 ‡.37	37.7	7.7	30.0	1.20	.096	.054	.042	9.2	.63	.0340	1.04	104,700
Yearly average.....	dec.	cons.	*.61	33.2	9.5	23.7	.95	.057	.036	.021	6.4	.86	.0260	.64	38,000

NOTE.—Odor generally distinctly unpleasant. §Iron. \*Turbid. †Unfiltered. ‡Filtered.

## Pawtucket Sewage.\*\*

*Chemical and Bacteriological Examination of the Sewage of the City of Pawtucket, the sample being taken from the flow as received at the purification plant, before passing screens.*

(Parts per 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPORATION.			AMMONIA.				NITRO- GEN.		Oxygen Consumed.	Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	In Solution.	In Suspension.	Albuminoid.				As Nitrates.	As Nitrites.		
							Free.	Total.	In Solution.	In Suspension.				
Jan. 3.....				77.8	46.0	31.8	8.30	1.50	.70	.80	8.5	.....	11.9	7,500,000
†Jan. 17.....				292.0	87.4	204.6	6.20	2.24	1.26	.98	13.2	.....	28.5	6*
Feb. 6.....				124.4	75.0	49.4	11.20	1.84	.97	.87	11.2	.....	26.0	8,760,000
Feb. 20.....				186.6	64.0	122.6	11.30	2.54	1.07	1.47	11.8	.....	37.0	18,060,000
March 6.....				166.8	68.4	98.4	14.12	2.80	1.23	1.57	13.0	.....	35.6	3,450,000
March 21.....				101.6	42.6	59.0	8.46	1.30	.64	.66	8.4	.....	17.4	10,850,000
April 3.....				100.9	58.0	42.0	10.87	1.80	.80	1.00	10.8	.....	22.8	5,650,000
May 1.....				138.0	58.0	80.0	9.60	1.83	.70	1.13	10.4	.....	17.4	14,910,000
May 16.....				83.0	49.0	34.0	10.58	1.82	.81	1.01	10.2	.....	13.7	13,290,000
June 4.....				155.0	82.0	73.0	11.30	2.42	.85	1.57	18.0	.....	18.1	19,890,000
June 19.....				86.6	49.2	37.4	9.06	1.50	.56	.94	9.6	.....	10.6	19,020,000
July 6.....				103.0	61.0	42.0	8.60	1.87	.74	1.13	12.4	.....	17.3	17,160,000
July 16.....				84.0	51.0	33.0	8.50	1.38	.59	.79	10.2	.....	11.2	1,300,000
July 31.....				109.4	74.6	34.8	8.06	1.56	.57	.99	17.5	.....	12.5	14,400,000
Aug. 14.....				100.0	60.0	40.0	7.46	1.32	.51	.81	15.4	.....	10.9	9,000,000
Sept. 5.....				143.8	87.6	56.2	8.18	2.38	.69	1.69	25.4	.....	14.4	6,600,000
Sept. 19.....				99.4	61.0	38.4	10.74	1.60	.66	.94	10.6	.....	12.4	7,600,000
Oct. 2.....				92.2	54.6	37.6	10.10	1.82	.72	1.10	9.8	.....	12.8	15,500,000
Oct. 17.....				98.0	51.0	47.0	9.28	1.56	.75	.81	9.0	.....	14.0	11,500,000
Nov. 21.....				81.0	50.0	31.0	5.55	1.06	.56	.50	7.4	.....	16.0	600,000
Dec. 19.....				110.6	55.0	55.6	8.40	1.50	.76	.74	8.2	.....	16.0	6,000,000
Yearly average.....				120.6	61.2	59.4	9.33	1.79	.77	1.02	12.0	.....	17.9	10,000,000

\*\*See also pages 42-47 of this report

\*No growth. †Considerable light colored sediment in sample.

## Pawtucket Sewage.\*\*

*Chemical and Bacteriological Examination of the Sewage of the City of Pawtucket, the sample being the supernatant liquor as flowing onto beds after holding sewage in settling tank.*

(Parts per 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPORATION.			AMMONIA.				NITRO- GEN.			Oxygen Consumed.	Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	In Solution.	In Suspension.	Albuminoid.				Chlorine.	As Nitrates.	As Nitrites.		
							Free.	Total.	In Solution.	In Suspension.					
Jan. 3.....				53.8	40.6	13.2	7.90	1.07	.65	.42	7.7			7.8	10,430,000
Jan. 17.....				117.6	85.8	31.8	6.20	1.70	1.13	.57	13.6			22.7	0 †
Feb. 6.....				97.6	71.0	26.6	10.90	1.52	1.00	.52	11.6			22.7	8,510,000
Feb. 20.....				101.0	60.0	41.0	9.30	1.64	.83	.81	10.6			19.0	18,960,000
Mar. 6.....				102.2	66.2	36.0	11.30	1.76	1.04	.72	12.8			24.5	13,280,000
Mar. 21.....				87.6	46.4	41.2	8.66	1.20	.64	.56	8.8			16.6	10,850,000
April 3.....				89.0	61.0	28.0	9.68	1.68	.80	.88	11.4			18.8	5,370,000
May 1.....				96.0	65.0	31.0	7.75	1.33	.89	.44	11.4			17.8	1,140,000
May 16.....				69.6	50.2	19.4	9.27	1.15	.66	.49	12.2			10.5	22,680,000
June 4.....				124.0	85.0	39.0	9.00	1.33	.61	.77	15.6			13.3	20,700,000
June 19.....				72.4	54.0	18.4	7.50	.96	.52	.44	11.2			8.2	37,210,000
July 6.....				71.8	59.2	12.6	8.03	1.11	.60	.51	13.6			11.1	11,160,000
July 16.....				69.0	53.4	15.6	8.50	.92	.50	.42	10.8			9.6	9,600,000
July 31.....				79.0	58.4	20.6	7.66	.92	.55	.37	11.6			8.6	18,600,000
Aug. 14.....				72.0	59.0	13.0	6.70	.70	.39	.31	15.0			7.5	5,700,000
Sept. 5.....				76.6	59.4	17.2	7.14	1.14	.65	.49	10.4			6.0	4,200,000
Sept. 19.....				68.0	50.4	17.6	9.10	.92	.42	.50	8.2			8.4	9,300,000
Oct. 2.....				75.6	57.4	18.2	8.10	1.16	.66	.50	11.0			9.0	11,900,000
Oct. 17.....				70.0	49.0	21.0	9.02	1.00	.62	.38	8.8			9.4	11,200,000
Nov. 21.....				59.0	46.0	13.0	5.90	.92	.54	.38	6.9			11.2	1,500,000
Dec. 5.....				63.0	46.0	17.0	8.15	1.15	.77	.38	8.2			11.2	7,000,000
Dec. 19.....				74.4	52.8	21.6	8.50	1.04	.58	.46	8.2			10.4	Lost.
Yearly average..				81.3	58.0	23.3	8.38	1.19	.68	.51	10.9			12.9	11,400,000

NOTE.—Screens out of service just prior to sample of May 16th. Screens in service again at sampling of October 17th.

\* See also pages 42-47 of this report.

† No growth.

# Pawtucket Sewage.\*\*

*Chemical and Bacteriological Examination of the Effluent or Filtered Sewage of the City of Pawtucket, being taken from the effluent pipes from regular sand beds 5-16.*

(Parts per 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPORA- TION.			AMMONIA.				NITRO- GEN.			Bacteria per c. c.	BED NO.	
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.			Oxygen Consumed.
								Total.	In Solution.	In Suspension.						
Jan. 3.....	sl.	sl.	*.95	30.3	8.6	21.7	3.20	.228	.222	.006	7.9	1.21	.0180	1.75	176,800	12 and 13.
Jan. 17.....	dec.	sl.	†.60	53.7	22.7	31.0	1.60	.204	.162	.042	9.0	4.81	.1200	2.06	142,000	14.
Feb. 6.....	dec.	cons.	†.70	48.5	18.9	29.6	2.80	.180	.128	.052	10.4	3.58	.2000	2.44	62,500	15.
Feb. 21.....	dec.	v. sl.	1.40	45.2	14.7	30.5	6.00	.306	.272	.034	9.2	.08	.0030	3.32	105,400	6 and 7.
Mar. 7.....	dec.	sl.	*	40.2	13.2	27.0	5.20	.254	.202	.052	8.2	.16	.0120	2.82	35,900	8 and 9.
Mar. 15.....	sl.	sl.	*	.....	.....	.....	5.92	.298	.228	.040	.....	.04	.0090	2.84	3,546,400	6 and 7.
Mar 15.....	sl.	v. sl.	†.55	.....	.....	.....	3.60	.174	.166	.008	.....	2.73	.2000	2.06	49,400	15.
Mar. 22.....	dec.	sl.	*	39.6	10.2	29.4	5.60	.220	.192	.028	8.8	.25	.0300	2.86	.....	6.
Mar. 22.....	dec.	v. sl.	*	38.2	10.8	27.4	4.90	.274	.230	.044	8.5	.69	.0120	3.18	.....	12.
April 4.....	dec.	sl.	*	40.5	11.1	29.4	5.60	.256	.206	.050	8.5	.20	.0600	2.80	16,000	6.
April 4.....	sl.	sl.	1.25	40.3	12.7	27.6	4.00	.206	.194	.012	8.0	1.48	.0600	2.34	32,400	12.
April 4.....	sl.	sl.	.50	43.4	16.7	26.7	2.50	.132	.112	.020	8.8	2.26	.2000	1.72	27,400	14.
May 2.....	dec.	v. sl.	†	44.2	11.0	33.2	5.28	.284	.206	.078	11.2	.23	.0240	2.94	150,000	6.
May 1.....	dec.	sl.	†	45.2	13.2	32.0	4.48	.290	.226	.064	11.0	.85	.0320	3.02	470,000	12.
May 1.....	dec.	v. sl.	†	49.2	18.5	30.7	3.36	.376	.334	.042	11.2	3.09	.1700	3.80	910,000	14.
May 16.....	dec.	sl.	†	41.3	12.6	28.7	2.00	.276	.164	.112	8.3	.79	.0500	2.58	4,100,000	9.
May 16.....	dec.	v. sl.	†.60	50.1	19.6	30.5	1.92	.194	.148	.046	10.0	3.82	.0450	2.00	6,900,000	14.
June 4.....	dec.	sl.	†.50	45.1	14.3	30.8	2.04	.170	.104	.066	10.8	2.35	.0320	1.58	742,000	15.
June 19.....	dec.	sl.	†.90	43.7	14.4	29.3	3.08	.174	.132	.042	8.4	1.88	.0640	1.84	420,700	6, 7 and 8.
July 6.....	v. sl.	cons. (floc.)	†.50	53.7	25.0	28.7	1.60	.102	.064	.038	9.8	3.22	.0400	1.38	84,000	16.
July 16.....	dec.	cons.	1.00	38.0	10.5	27.5	2.56	.162	.120	.042	9.4	.60	.0240	1.92	82,000	6 and 7.
July 31.....	v. f.	cons. (floc.)	.30	58.0	24.2	33.8	.72	.088	.056	.032	10.2	1.50	.0040	.96	21,000	14.
July 31.....	dec.	sl.	*	49.0	12.8	36.2	3.04	.242	.184	.058	10.2	.04	.0000	3.48	10,300	10 and 11.
Aug. 14.....	dec.	cons.	†.80	35.5	8.0	27.5	2.00	.136	.088	.048	8.0	.33	.0709	1.62	376,000	7, 8 and 9.
Sept. 5.....	v. sl.	cons. (floc.)	.40	53.8	20.5	33.3	1.28	.062	.034	.028	9.6	2.10	.0060	.76	27,200	6 and 7.
Sept. 19.....	v. sl.	cons. (floc.)	.45	51.0	17.5	33.5	1.20	.056	.034	.022	9.6	2.54	.0060	.71	58,000	6 and 7.
Sept. 19.....	dec.	cons.	.60	37.5	12.0	25.5	1.36	.176	.086	.090	7.8	2.37	.0060	1.60	1,300,000	16.
Oct. 3.....	dec.	cons.	*	36.7	10.3	26.4	1.60	.168	.100	.068	9.0	.90	.0700	1.96	250,000	15.
Oct. 17.....	dec.	sl.	†	40.0	9.5	30.5	4.58	.226	.136	.090	10.2	.69	.0600	1.96	1,200,000	12 and 13.
Nov. 21.....	v. sl.	heavy (floc.)	†.50	50.8	21.5	29.3	1.00	.088	.052	.036	7.7	3.51	.0100	1.20	76,000	15.
Dec. 5.....	dec.	cons. (floc.)	*.50	38.2	14.4	23.8	1.48	.188	.104	.084	6.8	2.38	.0040	2.20	140,000	14.
Dec. 19.....	sl.	heavy (floc.)	†.00	40.6	15.4	25.2	2.80	.240	.086	.154	7.0	1.80	.0530	1.88	600,000	12.
Yearly av'g.	dec.	sl.	x	44.0	14.8	29.2	3.07	.200	.149	.051	8.8	1.64	.0350	2.17	740,000	.....

NGRE.—Odor generally decidedly disagreeable and musty.

\*\*See also pages 42 and 47 of this report. \*Poor color. †Turbid. ‡Reddish. §First samples since leveling of beds. x=Turbid, about .68.

## Providence Sewage.\*

*Chemical and Bacteriological Examination of the Sewage of the City of Providence, the Sample being taken from the crude sewage-flow as received at the Purification Plant at Field's Point.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.			NITRO- GEN.			Oxygen Consumed.	Bacteria per c. c.	
	Turbidity.	Sediment.	Color.	Total.	In Solution.	In Suspension.	Free.	Albuminoid.			Chlorine.	As Nitrates.			As Nitrites.
								Total.	In Solution.	In Suspension.					
Jan. 9.				95.0	77.0	18.0	2.28	.66	.41	.25	23.2			9.80	700,000
Feb. 19.				109.0	81.0	28.0	2.18	.71	.40	.31	11.2			12.10	380,000
Mar. 21.				104.0	51.6	52.4	1.20	.60	.27	.33	11.6			12.50	580,000
April 19.				77.6	57.4	20.2	2.15	.62	.30	.32	12.0			10.30	600,000
May 22.				91.6	62.6	29.0	2.48	.83	.34	.49	14.6			14.40	13,100,000
June 26.				104.0	76.6	27.4	1.55	.62	.23	.39	27.8			6.50	2,910,000
July 18.				92.0	68.4	23.6	1.28	.69	.35	.34	13.2			10.40	1,900,000
Aug. 15.				116.0	69.0	47.0	1.77	.65	.21	.44	16.2			9.00	495,700,000
Sept. 19.				154.0	124.0	30.0	2.05	.70	.27	.43	46.0			7.70	460,000
Oct. 3.				181.0	155.0	26.0	1.92	.61	.27	.34	62.8			6.30	850,000
Nov. 15.				105.0	84.0	21.0	2.40	.60	.31	.29	23.8			10.60	1,100,000
Dec. 20.				178.0	143.0	35.0	1.60	.82	.45	.37	48.0			13.00	530,000
Yearly average..				117.3	87.5	29.8	1.91	.68	.32	.36	25.9			10.20	43,251,700

NOTE.—Odor of gas liquor noted in March, June, August, October and November samples.

*Chemical and Bacteriological Examination of the Sewage of the City of Providence, the sample being taken from the effluent leaving the Precipitation Tanks at Field's Point.*

Jan. 9.....	196.0	182.4	13.6	2.28	.38	.25	.13	78.2			4.00	186,000
Feb. 19.....	101.0	100.0	6.0	2.23	.38	.26	.12	35.6			4.30	138,700
Mar. 21.....	102.6	95.2	7.4	1.33	.31	.23	.08	33.6			4.88	3,195,000
April 19.....	92.4	82.4	10.0	1.03	.35	.23	.09	23.0			5.20	16,050,000
May 22.....	114.0	105.4	5.6	2.35	.46	.32	.14	38.0			5.40	1,270,000
June 26.....	83.2	77.0	6.2	1.62	.37	.22	.15	22.6			3.50	3,487,000
July 18.....	80.0	72.4	7.6	1.56	.31	.20	.11	20.6			4.68	53,900,000
Aug. 15.....	87.2	82.0	5.2	1.60	.25	.14	.11	28.6			3.00	Lost.
Sept. 19.....	106.0	97.0	9.0	2.00	.44	.27	.17	29.0			4.70	2,500,000
Oct. 3.....	118.0	110.6	7.4	1.29	.40	.22	.18	37.4			4.90	92,000
Nov. 15.....	121.0	115.0	6.0	1.22	.30	.21	.09	43.4			3.68	1,600,000
Dec. 20.....	98.0	90.0	8.0	1.45	.37	.24	.13	26.6			4.80	350,000
Yearly average..	108.7	101.0	7.7	1.66	.36	.23	.13	34.9			4.45	7,524,400

NOTE.—Odor of gas liquor noted in March, October and November samples.

\*See also pages 52-53 of this report.



## State Sanatorium Sewage.

*Chemical and Bacteriological Examination of Samples of Sewage taken before Filtration in Plant.*

(Parts per 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPORATION.			AMMONIA.				NITROGEN.			Oxygen Consumed.	Bacteria per c. c.
	Turbidity.	Sediment.	Color.	Total.	In Solution.	In Suspension.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.		
								Total.	In Solution.	In Suspension.					
Feb. 27.....				11.8	8.4	3.4	.40	.38	.32	.06	1.6			1.96	179,800
March 7.....				133.8	21.0	112.8	6.07	2.01	.53	1.48	3.3			15.80	3,390,000
April 17.....				18.6	7.0	11.6	1.03	.37	.24	.13	1.3			4.52	3,930,000
June 18.....				23.6	18.4	5.2	2.44	.60	.42	.18	3.4			2.88	2,800,000
July 17.....				30.0	24.0	6.0	5.45	.41	.30	.11	2.8			3.32	1,400,000
Aug. 7.....				33.4	28.8	4.6	6.46	.56	.26	.30	3.0			4.32	12,600,000
Aug. 21.....				30.6	26.4	4.2	8.80	.55	.37	.18	4.2			7.20	4,200,000
Sept. 25.....				31.0	26.0	5.0	5.64	.52	.30	.22	3.6			3.60	140,000
Oct. 16.....				52.0	37.0	15.0	8.50	.80	.46	.34	5.2			5.20	8,300,000
Nov. 20.....				49.0	31.0	18.0	10.68	1.00	.62	.38	5.6			5.95	14,000,000
Dec. 17.....				49.0	31.0	18.0	7.65	.84	.44	.40	4.4			6.20	8,500,000

NOTE.—Samples July—December from "inlet second tank."

*Chemical and Bacteriological Examination of Samples taken from the Effluent from the Filter Beds.*

					†	‡										
Feb. 27.....	sl.	sl.	.40	17.6	4.2	13.4	1.50	.08	.06	.02	1.5	1.40	.0070	.97		279,000
March 7.....	dec.	cons.	*.45	21.4	7.2	14.2	.26	.15	.09	.06	3.2	0.05	.0050	1.52		737,800
April 17.....	dec.	sl.	*.50	18.2	7.5	10.7	3.02	.12	.09	.03	1.9	0.02	.0000	2.46		283,800
June 18.....	dec.	v. sl.	*.60	27.7	9.5	18.2	3.64	.12	.08	.04	7.6	0.02	.0000	1.52		283,100
July 17.....	dec.	sl.	.70	38.5	9.3	29.2	4.18	.11	.10	.01	6.4	0.00	.0000	1.84		700,000
Aug. 7.....	dec.	sl.	*.65	36.8	7.6	29.2	6.86	.14	.12	.02	11.4	0.02	.0000	1.12		79,500
Aug. 21.....	dec.	sl.	*.55	30.5	5.1	25.4	5.64	.09	.08	.01	9.0	0.02	.0000	.96		10,900
Sept. 25.....	dec.	sl.	*.55	30.7	7.8	22.9	4.45	.16	.08	.08	7.5	0.48	.0080	1.04		170,000
Oct. 16.....	dec.	sl.	*.60	41.5	7.0	34.5	4.66	.17	.08	.09	8.8	0.02	.0000	1.40		210,000
Nov. 20.....	dec.	cons.	*.40	28.2	7.2	21.0	3.66	.12	.06	.06	5.2	0.77	.0200	.68		120,000
Dec. 17.....	dec.	sl.	*.50	30.0	4.6	25.4	4.20	.14	.08	.06	5.8	0.20	.0400	1.60		500,000

\*Turbid.

†Lost on Ignition.

‡Fixed.



## Woonsocket Sewage.\*

*Chemical and Bacteriological Examination of the Sewage of the City of Woonsocket, the sample being taken from the flow in the thirty-six inch sewer.*

(Parts per 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.				AMMONIA.			NITRO- GEN.			Bacteria per c. c.	
	Turbidity.	Sediment.	Color.	Total.	In Solution.	In Suspension.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.		Oxygen Consumed.
								Total.	In Solution.	In Suspension.					
Jan. 10.....				59.4	40.0	19.4	3.25	.80	.47	.33	5.6	.....	.....	8.80	5,380,000
Jan. 23.....				77.0	49.4	27.6	3.50	.98	.44	.54	12.0	.....	.....	8.00	8,060,000
Feb. 6.....				64.6	43.0	21.6	3.05	.76	.36	.40	7.5	.....	.....	13.20	14,880,000
Feb. 20.....				69.6	39.0	30.6	3.03	.85	.40	.45	6.8	.....	.....	12.50	8,660,000
Mar. 7.....				40.0	28.4	11.6	2.41	.61	.28	.33	4.8	.....	.....	5.30	2,120,000
Mar. 20.....				79.4	42.4	37.0	3.05	.86	.40	.46	7.2	.....	.....	10.90	3,720,000
April 4.....				49.6	31.6	18.0	2.35	.60	.27	.33	6.6	.....	.....	6.70	4,640,000
May 8.....				68.4	42.6	25.8	3.20	.77	.33	.44	9.2	.....	.....	8.40	18,110,000
June 6.....				71.4	48.4	23.0	4.90	.83	.35	.48	12.2	.....	.....	6.80	5,740,000
July 5.....				55.0	34.0	21.0	1.62	.45	.19	.26	5.6	.....	.....	8.30	1,520,000
Oct. 8.....				91.6	46.0	45.6	3.45	1.14	.42	.72	6.9	.....	.....	13.50	3,600,000
Nov. 7.....				61.0	27.0	34.0	3.27	.75	.36	.39	5.6	.....	.....	8.70	8,000,000
Dec. 12.....				87.0	50.0	37.0	4.07	1.18	.54	.64	7.0	.....	.....	11.80	4,500,000
Yearly average..				67.2	40.1	27.1	3.24	.81	.37	.44	7.5	.....	.....	9.50	6,871,500

\* See also pages 93 and 94 of this report.

## Woonsocket Sewage.\*\*

*Chemical and Bacteriological Examination of the Sewage Effluent of the City of Woonsocket,  
the sample being taken from beds 1-6, at the purification plant of that city.*

(Parts in 100,000.)

DATE OF COLLECTION.	APPEARANCE.			RESIDUE ON EVAPO- RATION.			AMMONIA.				NITRO- GEN.			Oxygen Consumed.	Bacteria per c. c.	Bed No.
	Turbidity.	Sediment.	Color.	Total.	Loss on Ignition.	Fixed.	Free.	Albuminoid.			Chlorine.	As Nitrates.	As Nitrites.			
								Total.	In Solution.	In Suspension.						
Jan. 10. ....	dec.	v. sl.	†.25	27.2	10.2	17.0	.71	.1080	.0980	.0100	5.6	1.27	.1000	1.15	159,600	1.
Jan. 23. ....	dec.	none.	†.30	27.5	9.2	18.3	.82	.0880	.0840	.0040	5.8	1.04	.1000	1.40	157,100	1.
Feb. 6. ....	dec.	none.	†.35	26.2	9.6	16.6	.93	.1300	.1300	.0000	5.9	1.06	.0800	1.30	446,400	1.
Feb. 20. ....	great	none.	†.25	35.5	14.0	21.5	1.30	.2400	.2000	.0400	5.8	1.84	.1000	3.60	97,000	6.
Mar. 7. ....	dec.	v. sl.	†.25	39.3	20.3	19.0	1.15	.0820	.0760	.0060	3.5	2.22	.0000	1.54	130,060	4.
Mar. 20. ....	sl.	cons.	*1.50	27.2	9.0	18.2	1.60	.1280	.0860	.0420	5.3	.58	.0360	1.54	137,600	5.
April 4. ....	dec.	cons.	1.20	36.6	15.2	21.4	1.00	.1400	.0640	.0760	5.6	1.47	.0700	1.76	99,900	6.
†May 8. ....	dec.x	sl.x	x	33.8	9.8	24.0	2.62	.1880	.0960	.0920	7.4	.17	.0900	2.32	1,400,000	2.
June 6. ....	dec.	v. sl.	†.60	24.1	4.5	19.6	1.07	.0860	.0560	.0300	7.2	.17	.0240	1.14	761,300	1 and 2.
July 5. ....	dec.	none.	.40	26.4	8.2	18.2	.52	.0660	.0520	.0140	5.6	.70	.0500	.82	99,200	6.
§Oct. 8. ....	dec.	none.	†.33	22.5	5.8	16.7	1.11	.1680	.1040	.0640	5.8	.43	.1000	1.16	270,000	1.
Nov. 7. ....	dec.	none.	†.50	24.5	6.8	17.7	2.23	.1960	.1780	.0180	6.0	.36	.1300	2.38	1,000,000	5.
Dec. 12. ....	dec.	v. sl.	†.50	25.3	5.7	19.6	1.81	.1540	.1400	.0140	5.8	.05	.0800	1.52	2,000,000	5.
Yearly av. . .	dec.	v. sl.	†.54	28.9	9.9	19.0	1.30	.1364	.1049	.0315	5.8	.87	.1200	1.66	516,700	.....

NOTE.—Odor generally distinctly to decidedly unpleasant and musty.

\*\*See also pages 93 and 94 of this report. \*Poor color. †Turbid. ‡First sample since spring cleaning of beds.

§During interval between this and previous sample the beds had been out of use practically all the time on account of work which was being carried on at plant. x=iron.

## METEOROLOGY.

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It has been remarked in previous reports of the Board that the influence of the meteorological conditions of the atmosphere, as well as the floating matter suspended therein, are recognized and acknowledged by all pathologists as causes of diseases; and the following tables are therefore introduced, as heretofore, for the purpose of comparing the prevalence of certain diseases, at different monthly periods of the year, with the temperature, the atmospheric pressure, the relative humidity, prevailing direction and force of the wind, and other conditions of the atmosphere, and also the amount of cloud and rain-fall during each month of the year. All of the said diseases and monthly prevalence of the same may be found in the report upon the registration of deaths arranged by MONTHS, in Table VII of the Registration Report.

The first table is compiled from the monthly reports of the city engineer of Providence, and shows the mean, maximum, and minimum temperature of the different months, and the extremes and average daily range of the same, the rain-fall, and prevailing direction of the wind.

The second table will give a more comprehensive monthly summary of observation taken during 1906, including a large number of atmospheric conditions for each month, and also yearly summaries for each of the five preceding years. It is condensed from the annual summary of monthly observations noted at Hope reservoir and the city hall in Providence. Similar data, for the years previous to those given in this report, will be found in the report for the year 1902, these figures commencing with the year 1883.

Meteorological observations copied from the annual summary of the Weather Bureau of the U. S. Department of Agriculture follow in the next tables, and give data as to temperature, precipitation, condition of the sky, and the direction of the wind, at five different stations.

TABLE 1.

*Temperature, Range of Temperature, Rain-fall, and Prevailing Direction of the Wind for each Month during the year 1906.*

(Providence.)

MONTHS.	TEMPERATURE.							Total Amount of Rain or Melted Snow in Inches.	Prevailing Direction of the Wind.
	Monthly Mean.	Maximum.	Minimum.	Monthly Range.	Greatest Daily Range.	Least Daily Range.	Average Daily Range.		
January.....	35.2	64.0	8.5	55.5	32.5	5.0	13.3	3.01†	N.
February.....	30.8	61.0	3.0	58.0	32.5	4.5	16.1	3.23†	N., N. W.
March.....	33.5	57.0	9.5	47.5	27.0	6.5	14.8	5.42†	N. W.
April.....	48.5	75.0	28.5	46.5	31.0	8.5	18.0	2.75†	N. W.
May.....	60.1	90.5	39.0	51.5	29.0	5.0	19.8	4.64	S.
June.....	68.4	94.5	47.5	47.0	34.0	5.0	21.0	4.36	S.
July.....	72.4	92.0	53.5	38.5	28.5	7.0	17.7	5.47	S.
August.....	73.6	93.5	55.0	38.5	27.0	7.0	17.1	3.14	S.
September.....	65.8	89.5	44.5	45.0	26.5	7.0	17.7	3.53	S.
October.....	53.7	76.0	34.0	42.0	24.5	3.5	15.5	5.39	N.
November.....	42.5	66.5	24.0	42.5	22.0	3.5	11.6	2.31†	N. W.
December.....	30.0	53.5	3.0	50.5	42.0	3.0	13.7	4.85†	N.
For year.....	51.2	94.5	3.0	.....	.....	.....	.....	48.10	N. W.

† Snow and rain.

TABLE II.—Summary of Meteorological Observations at Hope Reservoir and City Hall, Providence, for the Year 1906.

MONTHS.	BAROMETER. Reduced to Sea Level, and to 32°.				THERMOMETERS.				RELA- TIVE HUMID- ITY.	WIND.								WEATHER.				RAIN AND SNOW.					
	Reduced to Sea Level, and to 32°.				THERMOMETERS.					WIND.								WEATHER.				RAIN AND SNOW.					
Range.				Range.				Prevailing Direction, No. of days it was								Atmosphere, No. of days it was				Mean amount of		Amount of rain or		Depth of snow in			
Mean.	Maximum.	Minimum.	Range.	Mean.	Maximum.	Minimum.	Range.	North.	Northeast.	East.	Southeast.	South.	Southwest.	West.	Northwest.	Variable.	Mean velocity.	Clear.	Fair.	Variable.	Rain or snow.	All others.	Mean amount of	cloud.	inches.	inches.	inches.
January.....	30.06	30.72	29.18	1.54	35.2	64.	8.5	55.5	74	7	1	1	3	5	4	4	6	....	8	5	6	2	16	2	4.8	3.01†	7.50
February.....	30.12	30.89	29.49	1.40	30.8	61.	3.	58.	70	9	2	1	0	5	2	0	9	....	8	11	5	1	11	0	3.9	3.23†	2.50
March.....	30.01	30.83	29.15	1.68	33.5	57.	9.5	47.5	68	9	1	1	2	4	1	1	12	....	9	9	6	0	16	0	4.8	5.42†	13.50
April.....	29.93	30.44	29.35	1.09	45.5	75.	28.5	46.5	65	5	1	1	1	10	0	0	12	....	8	6	14	0	10	0	4.6	2.75†	*
May.....	29.93	30.48	29.36	1.12	60.1	90.5	39.	51.5	68	6	0	1	1	13	1	4	5	....	8	8	10	1	12	0	4.4	4.64	.....
June.....	29.91	30.33	29.55	.78	68.4	94.5	47.5	47.	71	6	2	2	2	9	1	2	6	....	6	3	14	0	12	1	5.2	4.36	.....
July.....	29.97	30.44	29.61	.83	72.4	92	53.5	38.5	79	8	1	1	0	17	2	1	1	....	4	1	9	1	19	1	6.1	5.47	.....
August.....	30.01	30.36	29.68	.68	73.6	93.5	55.	38.5	77	3	6	2	0	11	3	1	5	....	4	3	16	0	12	0	5.2	3.14	.....
September.....	30.06	30.48	29.45	1.03	65.8	89.5	44.5	45.	74	4	3	2	1	9	4	2	5	....	5	12	9	2	7	0	3.0	3.53	.....
October.....	30.05	30.58	29.17	1.41	53.7	70.	34.	42.	78	9	2	4	4	3	2	1	6	....	5	6	14	2	7	2	4.9	5.39	.....
November.....	29.96	30.26	29.27	1.09	42.5	66.5	24.	42.5	68	5	1	2	0	1	2	5	14	....	7	6	9	0	15	0	4.3	2.31†	3.00
December.....	30.04	30.69	29.42	1.27	39.	53.5	3.	50.5	75	10	1	2	2	1	2	5	8	....	8	4	8	1	18	0	6.1	4.85†	9.25
Means for the year.	30.00	.....	.....	1.16	51.2	.....	.....	46.9	72	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....	.....	.....	.....	.....	4.8	.....	.....
Totals for the year.	.....	.....	.....	.....	.....	.....	.....	.....	.....	81	21	20	16	88	24	26	89	.....	.....	74	120	10	155	6	.....	48.10	35.75
Extremes.....	.....	30.89	29.15	1.74	.....	94.5	3.	91.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

\* Too small to be measured.

† Snow and rain.





*Meteorological Observations for the Whole State for 1906.*

MONTHS.	TEMPERATURE (IN DEGREES FAHRENHEIT).						PRECIPITATION (IN INCHES).						SKY.			WIND. Prevailing direction of the wind.
	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snow-fall (un- melted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	
BLOCK ISLAND.																
January.....	36.8	+5.7	56	22	13	10	24	3.03	-1.17	0.83	3.5	12	5	16	10	S. W.
February.....	31.1	+0.3	50	21	5	3	30	4.39	+0.03	1.57	1.8	6	10	10	8	N. W.
March.....	33.6	-1.2	51	27	11	1	21	5.71	+1.68	1.76	11.2	15	8	12	11	N. W.
April.....	45.4	+2.0	63	21	31	3	20	2.03	-1.38	1.23	.....	7	8	14	8	S. W.
May.....	51.2	+1.8	75	19	42	10	19	5.03	+1.26	3.19	.....	9	14	13	4	S. W.
June.....	62.8	+0.8	82	30	48	12	23	1.90	-0.68	0.78	.....	11	6	17	7	S. W.
July.....	67.7	-0.7	81	22	57	1	17	3.88	+0.71	0.98	.....	17	5	15	11	S. W.
August.....	70.5	+2.5	83	7	66	16	15	1.84	-1.62	1.02	.....	9	13	12	6	S. W.
September.....	61.7	+1.1	80	19	51	5	19	2.08	-0.83	0.77	.....	9	15	9	6	.....
October.....	55.0	+1.4	68	5	40	31	16	2.69	-1.74	1.83	.....	9	5	13	13	N. E.
November.....	41.6	-0.3	62	18	27	30	19	2.46	-1.74	1.11	0.1	9	11	7	12	N. W.
December.....	33.0	-3.2	55	6	5	8	38	3.51	-0.16	1.21	1.4	12	4	12	15	N. W.
4 4 4																
Means.....	50.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	.....	.....	.....	.....	.....	.....	.....	38.55	.....	.....	18.0	125	104	150	111	.....
Extremes.....	.....	.....	83	.....	5	.....	38	.....	.....	3.19	.....	.....	.....	.....	.....	S. W.

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MONTHS.	TEMPERATURE (IN DEGREES FAHRENHEIT).						PRECIPITATION (IN INCHES).						SKY.			WIND. Prevailing direction of the wind.
	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snow-fall (un- melted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	
BRISTOL. §																
January.....	31.6	+5.6	53	23	10	10	18	3.38	-1.03	1.02	6.5	10	14	10	7	S. W.
February.....	30.2	+0.5	50	22	4	3	29	3.74	-0.20	1.71	2.0	5	15	8	5	N. W.
March.....	33.1	-2.2	50	4	10	1	21	6.13	+1.70	1.90	10.5	13	15	7	9	N. W.
April, (A).....	46.6	+1.5	60	18	28	12	26	2.65	-0.64	1.30	.....	7	.....	.....	.....	S.
May.....	56.7	+1.1	80	19	41	11	22	4.03	+0.21	2.20	.....	9	17	8	6	S.
June.....	64.0	-0.8	82	29	46	12	24	4.40	+2.10	1.78	.....	9	14	10	6	S. W.
July.....	68.6	-1.2	82	18	54	7	19	3.20	+0.07	0.66	.....	15	.....	.....	.....	S. W.
August.....	70.2	+0.9	83	7	55	27	18	2.19	-1.49	1.71	.....	10	.....	.....	.....	.....
September.....	64.4	+0.7	80	17	44	25	20	2.38	-1.17	0.85	.....	10	.....	.....	.....	S. W.
October.....	54.1	+1.8	71	5	35	13	23	4.12	-0.04	2.09	.....	7	14	9	8	N. E.
November.....	42.8	-1.0	61	19	24	30	21	2.27	-1.70	0.98	T.	7	15	9	6	.....
December.....	30.2	-3.4	51	6	4	8	37	4.18	+0.87	1.37	5.0	14	9	9	13	N. W.
Means.....	49.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	.....	.....	.....	.....	.....	.....	.....	42.67	.....	.....	24.0	116	113	70	60	.....
Extremes.....	.....	.....	83	.....	4	.....	37	.....	.....	2.20	.....	.....	.....	.....	.....	S. W.

MONTHS	TEMPERATURE (IN DEGREES FAHRENHEIT).						PRECIPITATION (IN INCHES).						SKY.			WIND. Prevailing direction of the wind.
	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snow-fall (un- melted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	
KINGSTON, §																
January.....	33.0	+5.3	62	23	-3	10	29	5.16	+0.06	1.04	9.0	12	13	11	7	W.
February.....	28.6	+0.7	56	21	-2	3	32	4.71	-0.59	2.07	4.0	6	12	9	7	N. W.
March.....	31.2	-3.1	53	29	5	1	29	6.34	+0.83	2.16	11.0	11	13	9	9	N. W.
April.....	45.4	+0.6	72	21	20	1	35	3.72	-0.51	2.11	.....	7	12	12	6	N. W.
May.....	56.4	+1.4	86	†18	32	11	41	4.50	-0.01	2.15	.....	8	16	9	6	S. W.
June..	64.4	-0.1	87	28	42	12	33	3.16	+0.53	1.37	.....	6	10	11	9	S. W.
July .....	68.4	-0.8	86	22	50	7	27	4.05	+0.29	0.95	.....	13	8	11	12	S.
August.....	70.4	+1.8	89	7	50	16	29	1.02	-3.08	0.29	.....	8	16	9	6	S. W.
September.....	63.5	+1.1	90	19	39	25	32	4.28	+0.42	2.28	.....	8	10	7	4	S. E.
October.....	51.8	+1.0	77	5	29	12	26	5.68	+0.17	2.31	.....	8	10	11	10	N. E.
November.....	40.2	-0.9	34	19	18	30	30	3.48	-1.60	1.63	T.	7	13	9	8	W.
December.....	28.1	-3.6	52	6	-1	8	42	5.82	+2.09	2.28	7.0	14	4	12	15	W.
Means.....	48.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	.....	.....	.....	.....	.....	.....	.....	51.98	.....	.....	31.0	108	146	120	99	N.W. S.W., W.
Extremes.....	.....	.....	90	.....	-3	.....	42	.....	.....	2.31	.....	.....	.....	.....	.....	.....

MONTHS.	TEMPERATURE (IN DEGREES FAHRENHEIT).						PRECIPITATION (IN INCHES).					SKY.			WIND.	
	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snow-fall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	Prevailing direction of the wind.
NARRAGANSETT PIER.																
January.....	34.5	+5.6	56	23	2	10	27	2.52	-2.40	0.40	7.0	11	9	9	13	W.
February.....	29.6	+0.6	51	21	2	3	31	2.18	-2.09	1.03	2.0	5	14	8	6	W.
March.....	32.4	-2.0	53	27	8	1	25	5.49	+0.91	1.63	11.5	14	13	5	13	S. W.
April.....	44.8	+0.1	66	21	24	†1	25	3.01	-0.52	0.93	.....	10	14	10	6	S. E.
May.....	54.7	-0.3	81	19	35	11	26	5.14	+0.89	2.20	.....	9	• 19	5	7	S. W.
June.....	63.2	-1.2	86	29	45	12	26	3.64	+1.33	1.46	.....	8	19	5	6	W.
July.....	67.6	-2.3	82	22	54	†7	23	4.42	+1.10	0.67	.....	14	15	8	8	S.
August.....	70.4	+1.5	88	12	52	16	24	0.91	-3.14	0.24	.....	1	21	2	8	W.
September.....	61.0	+1.3	88	19	42	5	27	5.42	+2.16	2.23	.....	10	21	2	7	W.
October.....	53.6	+1.4	72	5	32	30	26	4.40	-0.14	2.04	.....	9	14	5	12	.....
November.....	42.0	-1.1	68	19	19	30	29	3.46	-0.90	1.32	T.	9	15	7	8	W.
December.....	29.8	-3.7	53	†6	2	8	39	4.22	+0.70	1.29	7.0	16	8	5	18	W.
Means.....	48.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	.....	.....	.....	.....	.....	.....	.....	45.11	.....	.....	27.5	116	182	71	112	.....
Extremes.....	.....	.....	88	.....	2	.....	39	.....	.....	2.23	.....	.....	.....	.....	.....	W.

*Meteorological Observations for the Whole State for 1906.—Concluded.*

MONTHS.	TEMPERATURE (IN DEGREES FAHRENHEIT).						PRECIPITATION (IN INCHES).						SKY.			WIND.
	Mean.	Departure from the normal	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snow-fall (un-melted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	
PROVIDENCE.																
January.....	34.2	.....	64	23	6	10	32	2.59	.....	0.91	8.4	10	10	9	12	.....
February.....	29.6	.....	62	21	1	3	32	2.88	.....	1.23	3.8	10	14	6	8	.....
March.....	32.2	.....	56	29	7	1	29	4.29	.....	1.60	16.9	14	10	9	12	.....
April.....	47.4	.....	75	21	26	2	33	2.07	.....	1.14	0.6	7	9	11	10	.....
May.....	57.6	.....	89	19	37	11	31	4.51	.....	2.18	.....	11	15	9	7	W.
June.....	66.3	.....	89	28	45	12	30	3.40	.....	1.65	.....	9	10	13	7	.....
July.....	70.6	.....	89	22	52	7	24	5.29	.....	1.36	.....	18	6	12	13	.....
August.....	72.2	.....	91	6	53	25	24	2.51	.....	2.09	.....	9	8	15	8	.....
September.....	64.6	.....	92	19	42	25	29	3.18	.....	1.91	.....	6	18	6	6	.....
October.....	53.2	.....	73	5	33	14	28	4.91	.....	3.13	.....	8	9	10	12	.....
November.....	41.8	.....	68	18	22	30	26	1.90	.....	0.90	1.9	10	13	8	9	N. W.
December.....	28.9	.....	55	6	0	8	45	3.81	.....	2.05	9.0	14	5	10	16	.....
Means.....	49.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	.....	.....	.....	.....	.....	.....	.....	41.34	.....	.....	40.6	126	127	118	120	.....
Extremes.....	.....	.....	92	.....	0	.....	45	.....	.....	3.13	.....	.....	.....	.....	.....	.....

*Meteorological Observations for the Whole State for 1906.*

(CONCLUDED.)

MONTHS.	TEMPERATURE (IN DEGREES FAHRENHEIT).						PRECIPITATION (IN INCHES).					SKY.			WIND.	
	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snow-fall (un-melted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	Prevailing direction of the wind.
AVERAGES, ETC., FOR 1905.																
Block Island.....	50.0	.....	83	.....	5	.....	38	38.55	.....	3.19	18.0	125	104	150	111	S. W.
§ Bristol.....	49.6	.....	83	.....	4	.....	37	42.67	.....	2.20	24.0	116	113	70	60	S. W.
§ Kingston.....	48.4	.....	90	.....	—3	.....	42	51.98	.....	2.31	31.0	108	146	120	99	NW., SW., W.
Narragansett Pier.....	48.9	.....	88	.....	2	.....	39	45.11	.....	2.23	27.5	116	182	71	112	W.
Providence.....	49.8	.....	92	.....	0	.....	45	41.34	.....	3.13	40 6	126	127	118	120	.....

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of alphabet following month indicates the number of days for which no record was kept.

§ Thermometers not supplied by Weather Bureau.

† On other dates also.

T Indicates Trace.



## BIRTHS, DEATHS, AND MARRIAGES, 1906.

The value of reliable reports, in their various bearings, relating to the records of births, marriages, and deaths, and the items of fact connected therewith, showing the vital movements of the population from year to year, has been so frequently presented in the previous reports of this Board as to need no repetition at this time. It is gratifying, however, to be able to state that, with no exception, persons eminent in social and political science everywhere recognize the indispensable information such reports furnish, and that in every civilized country they occupy places of importance in the government reports second to no other department.

The fifty-third report (1905) on registry of vital movements in Rhode Island was completed and issued by the end of the year, and will be found appended to this report.

The work of collecting the data for the fifty-fourth report (1906), the enumerating, classifying, arranging, and collecting in tables for the purpose of presenting the various facts in such detail as to facilitate examination and study, has been in progress during the time of making up this report, and affords some facts which may be presented at this time.

Below will be found some of the general results of the registry of births, marriages, and deaths during 1906.

SEX.		BIRTHS.		PARENT NATIVITY.	
Males.....	6,475	Native*.....	4,978		
Females.....	6,202	Foreign.....	7,699		
Whole number of births.....		12,677			

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\*Including all whose fathers were born in the United States, whether the fathers were of foreign or native parentage.

## MARRIAGES.

Native born Groom and Bride.....	2,345
Foreign born Groom and Bride.....	1,624
Native Groom and Foreign Bride.....	584
Foreign Groom and Native Bride.....	564
Whole number of marriages.....	5,117
Native Grooms.....	2,929
Foreign Grooms.....	2,188

## DEATHS.

SEX.		NATIVITY.	
Males.....	4,419	Native.....	6,016
Females.....	4,193	Foreign.....	2,596
Whole number of deaths.....	8,612		

## PROPORTION OF BIRTHS, MARRIAGES, AND DEATHS TO POPULATION, AND RATIOS PER 1,000 OF POPULATION IN 1906.

There was one birth to every 37.9 of population, or .....25.9 births in every 1,000  
 One person married in every 48.0 of population, or ..... 20.9 persons married in every 1,000  
 And one death in every 56.9 of population, or.....17.6 deaths in every 1,000  
 Population in 1906 was.....490,306

*The following Summary will show the rates, per 1,000 of the population, of births, marriages, and deaths for eighteen years.*

	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Birth-rates.....	24.1	24.7	26.5	25.2	26.5	26.6	25.7	27.3	26.8	25.9	25.6	25.9	25.8	25.1	25.3	25.8	25.6	25.9
Death-rates.....	19.0	20.1	18.6	20.1	19.6	19.5	19.6	19.1	17.6	16.7	17.6	20.6	18.2	17.8	18.5	17.3	17.1	17.6
Excess of birth-rates over death-rates	5.1	4.6	7.9	5.1	6.9	7.1	6.1	8.2	9.2	9.2	8.0	5.3	7.6	7.3	6.8	8.5	8.5	8.3
Marriage-rates (persons).....	18.4	18.5	18.7	19.1	18.7	17.4	18.2	17.0	15.6	15.8	16.2	18.4	17.6	18.5	19.2	17.8	19.9	20.9
Ratio of number of marriages.....	9.2	9.3	9.3	9.6	9.4	8.7	9.1	8.5	7.8	7.9	8.1	9.2	8.8	9.3	9.6	8.9	9.9	10.4

The following table will present the number, parentage, and proportion to total mortality of deaths from several of the most prominent causes of death, in their order of precedence for 1906:

	Whole No. of deaths.	Percentage of deaths from all causes	Parentage.		Excess of Foreign over
			Native.	Foreign.	Native.
Tuberculous Diseases.....	998	11.59	300	698	398
Pneumonia.....	950	11.03	336	614	278
Heart Diseases.....	812	9.43	376	436	60
Cholera Infantum.....	674*	7.83	198	476	278
Kidney Diseases.....	589	6.84	219	370	151
Cerebral Hemorrhage and Apoplexy...	438	5.09	218	220	2
Cancer.....	377	4.38	140	237	97
Accidents.....	338	3.92	114	224	110
Brain Diseases.....	295	3.43	126	169	43
Old Age.....	223	2.59	143	80	—63
Stomach Diseases.....	207	2.41	79	128	49
Bronchitis.....	204	2.37	74	130	56
Measles.....	126	1.46	39	87	48
Diphtheria.....	120	1.39	48	72	24
Liver Diseases.....	116	1.35	32	84	52
Whooping Cough.....	104	1.21	47	57	10
Enteritis.....	94**	1.09	34	60	26
Appendicitis.....	91	1.06	43	48	5
Typhoid Fever.....	81	.94	35	46	11
Diabetes.....	81	.94	40	41	1
Scarlet Fever.....	79	.92	16	63	47
Dysentery.....	58	.68	23	35	12
Influenza.....	41	.48	15	26	11

#### LONGEVITY OF DECEDENTS.

	1901.	1902.	1903.	1904.	1905.	1906.
Average age in years of Male decedents.....	35.01	34.32	32.94	35.08	35.51	34.60
Average age in years of Female decedents.....	38.07	36.70	35.96	39.77	38.06	37.06
Average age in years of All decedents.....	36.51	35.49	34.40	37.37	36.77	35.80

There has been a gradual increase during the last forty-six years in the average length of life of decedents; taking five-year periods the figures increase from twenty-nine and thirty-two one-hundredths years, for the period from 1861-1865, to thirty-six and eleven one-hundredths years for the period from 1901-1905.

\*Includes Diarrheal diseases under 2 years.

\*\*Includes Diarrheal diseases over 2 years.

## RATIOS OF MORTALITY.

There has been the usual variation in the amount of mortality from the more important diseases. Cancer, as a cause, has decreased very slightly as compared with the year before. There was a decrease of thirty-three deaths from consumption from the previous year, and the percentage to the whole number of deaths has noticeably decreased. A decrease in the number of deaths from influenza during the year 1906 is noted, there being sixty-six less deaths than in 1905.

The number of deaths from diseases of the heart has increased, there being 81 more deaths from this cause this year as compared with last. Diseases of the heart are often associated with disease of the kidneys, and the physician signing the death return may give prominence to one of these as a primary cause, since this may be uppermost in his mind. It may be at times that the presence of disease of the kidneys, as shown by the physical signs, may be more readily ascertained than pathological changes in an examination of the heart. Often both causes are given, and as statisticians have not agreed upon a selection of either as of the major importance, the compiler may unwittingly lean to a preference. During 1906 there were 589 deaths from diseases of the kidneys, which is less by 33 than the number in 1905.

The micro-organisms producing influenza, or the specific organisms causative of the infectious diseases are carried to different parts of the system and lodging there may produce inflammatory symptoms in that locality. This condition may not be distinguishable from some disease commonly found in that particular organ invaded by these organisms. When the lung is invaded we may have a "congestive pneumonia," but the specific pneumococcus of true lobar pneumonia, is not present. The pulmonary symptoms being the most prominent, the physician may give the cause of death as pneumonia. Also, an active inflammation of the lungs may supervene in the presence of tuberculosis of the lungs and the physician may not distinguish

the relation of the symptoms to each other. This may in part account for the 996 deaths classed as pneumonia, in 1905, which was the largest number ever recorded in the state. In 1906 there was a falling off of 46 deaths from this cause.

In 1906 there were 44 more deaths from scarlet fever than during the previous year. This is the largest number since 1895.

Small-pox, which had spread throughout the State in 1902, causing 35 deaths, had abated in the actual number of cases and the number of deaths had fallen to only 3 in 1903, and in 1904, 1905 and 1906, no deaths from this cause were recorded.

The following figures give a more detailed comparison of the number of deaths from a number of diseases.

APOPLEXY AND CEREBRAL HEMORRHAGE.—There was but one more death from apoplexy in 1906 than in 1905. The number of deaths, taken in five-year periods from these causes has been increasing for the past forty years; the last two periods, however, were practically the same. The percentage of the whole number is not materially changed, however, for the last twenty-five years.

BRONCHITIS.—There was a decrease of twenty-five from the number of deaths from bronchitis in 1905.

CANCER.—The deaths from cancer in 1906 numbered 377, as against 383 in 1905, and 401 in 1904.

CHOLERA INFANTUM.—There were 674 deaths from cholera infantum in 1906, as against 598 in 1905. The proportion to whole number or deaths was 7.83 per cent.; in 1905 the proportion to whole number of deaths was 7.28 per cent.

CONSUMPTION.—There were 998 deaths from tuberculous diseases in 1906. These include 797 from pulmonary tuberculosis, 39 from general tuberculosis, 37 from abdominal tuberculosis, 89 from tuberculous meningitis, 8 from laryngeal tuberculosis, and 28 from tuberculosis of other organs.



DIPHTHERIA.—This disease had a mortality of 120 in 1906, which number was only 1 less than in 1905, 103 of these deaths were in Providence county, 48 being in Providence city. The percentage to the whole number of deaths was 1.39.

FEVER, TYPHOID.—There were 81 deaths from typhoid fever in 1906, as against 84 in 1905, and 74 in 1904. Typhoid fever, as a disease and a cause of death, has gradually lessened in both respects during the last twenty-five years. This is especially evident when five-year periods are considered, and the decrease is especially noticeable in the case of Providence county cities and towns including the city of Providence.

HEART, DISEASES OF.—The deaths from diseases of the heart in 1906 numbered 812, against 731 in 1905. Diseases of this organ have been gradually increasing in the last forty years.

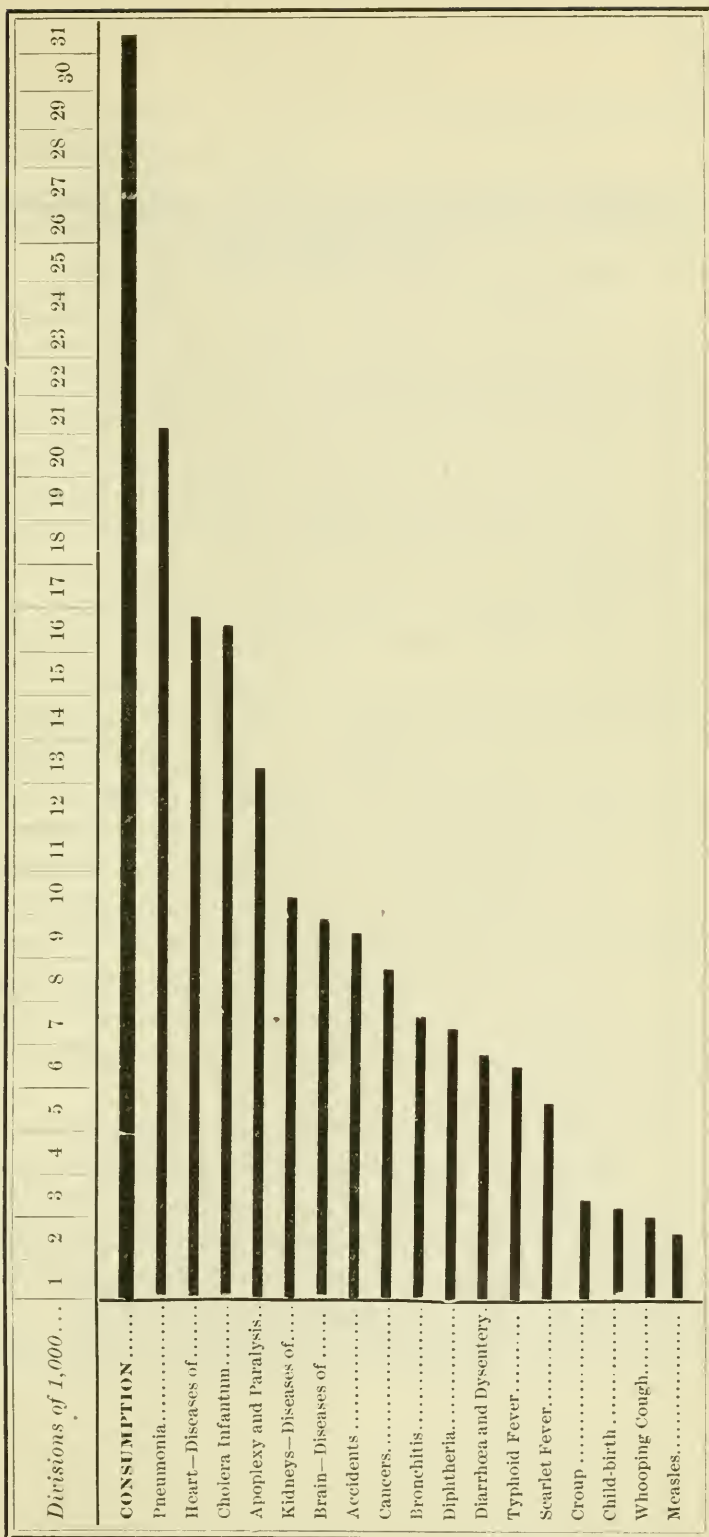
INFLUENZA.—The number of deaths reported from this disease in 1906 was 41, a decrease of 66 from the number in 1905. The largest number of deaths from this cause was in 1892, when 366 deaths were recorded.

KIDNEYS, DISEASE OF.—The number of deaths from diseases of the kidneys in 1906, was 589, which was smaller by 33 than that of 1905 (622), which number was the largest number ever recorded in this State. Kidney disease has been gradually assuming large importance as a cause of death during the last forty years. The ratio of mortality for the five years, 1901–1905, was more than eight times as large as the ratio of the years 1866–1870.

PNEUMONIA.—The number of deaths caused by pneumonia in 1906 was 950, which was 46 less than in 1905.

SCARLET FEVER.—There were 79 deaths recorded in 1906 from scarlet fever. This was forty-four more than the number in 1905. Scarlet fever, however, has largely decreased in epidemic prevalence and proportion of mortality during the last ten years as compared with previous periods of ten years each.

*Diagram exhibiting the comparative mortality by absolute number of deaths from eighteen principal causes of death in Rhode Island for forty-one years, 1866-1906.*



## REPORT OF CONTAGIOUS DISEASES DURING THE YEAR 1906.

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For the purpose of ascertaining the comparative prevalence of the more common communicable diseases, the health officers of the several towns are requested to report monthly to the State Board of Health all cases of diphtheria, scarlet fever, typhoid fever, measles, and other communicable diseases which may have occurred during the month previous.

The health officers are supplied with return addressed postals for this purpose, and the postals are forwarded to them each month as a reminder.

Many of them report regularly. Others do not report, as they have no record of cases. The physicians in many towns, although aware of the existence of ordinances requiring the reporting of contagious and infectious diseases, do not report the cases occurring in their practice to the health officer. This is because, in the first place, they have so few cases that they postpone the report until it is already known to the town people and to the health officer by town rumor. In some cases the physicians object to reporting to a health officer who is not a physician. In several towns the health officer is merely a nuisance inspector and may be engaged in the occupation of a grocer, plumber, or undertaker.

As no result or benefit will accrue from reporting the case under these conditions, it appears useless to the doctor to report. No inspection will be made, no placard placed, no instructions or precautions will be given by some of these unprofessional appointees.

In fact, the physician, in the presence of an epidemic, is more apt to report to the secretary of the State Board of Health. If advised to report to the local health officer, that he may immediately com-

pare these cases with others reported, the question is asked if there is any health officer, and who he is.

Some physicians object to having a mechanic or town sergeant with no visible vocation call upon the family in connection with his case, as they do not believe that any additional sanitary directions can be given than those which they have already given to the family.

The proportion of cases reported and those neglected are about the same each year. However, the figures as tabulated are more accurate, beginning with the year 1904, but from year to year those reported serve as a fair comparison.

By observation of the following tables it will be noted that in 1906 there were 731 cases of diphtheria, which was 26 less than the number reported during the previous year, which was 757. The average for the twelve years previous to 1906 was 700. This makes the number for 1906, 31 more than the average.

In 1906 there were reported 1,147 cases of scarlet fever, 247 more than in 1905, and 322 more than the average for the previous twelve years, which was 825.

Typhoid fever prevailed to the number of 368 cases, which was 56 more than the number reported in the previous year, and 29 more than the average for the previous twelve years, which was 339.

There were reported 1,188 cases of measles in 1906, which number was 225 more than the year before and 493 more than the average for the four years preceding, which was 695.

There were undoubtedly many more cases of measles. Many cities and towns do not desire the report of this disease, and many cases occur in families where no physician is called in attendance.

The prevalence of these diseases during one year more than another does not give the significance that would appear at first sight.

It permits of comparison of the number of cases with other prevailing conditions, such as season, climatic conditions, etc. By such comparison, it permits of the deduction that the spread of the disease may be dependent upon local conditions or upon association of individuals; thus the difference in season may be only because

individuals are more closely brought in contact with each other, as the schools are open during winter months only. In the summer months the individual is prone to travel, and through coming in contact with the dejections of many individuals at country farms and watering places, through transmission by flies and other insects, or by contaminated drinking-water, becomes infected with typhoid fever.

All the figures in this connection go to emphasize the fact that prevalence of these diseases means individual and direct contact of the person with the disease in another, sometimes in a milder form or with the excreta or secretions from an original case. The deductions made in the report of the superintendent of health of the city of Providence, give a precise study of the influence of these latter conditions.

## DIPHTHERIA FOR 1906.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For Year.
Barrington.....	0	0	0	0	0	0	0	0	0	0	1	0	1
Bristol.....	1	2	0	0	0	0	0	1	0	0	0	0	4
Warren.....	0	1	0	0	2	2	8	2	2	3	4	4	28
Coventry.....	4	2	1	2	1	0	0	0	0	0	2	0	12
East Greenwich.....	0	0	0	0	0	0	0	0	1	3	4	3	11
*West Greenwich.....	1	3	4	0	0	1	1	0	1	0	0	0	11
Warwick.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Jamestown.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Compton.....	0	0	1	0	0	0	0	0	0	0	6	0	1
Middletown.....	3	1	1	2	0	1	1	1	5	6	5	7	33
Newport.....	0	0	0	0	0	0	0	0	0	0	0	0	0
New Shoreham.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Portsmouth.....	1	0	0	0	3	0	0	0	0	0	1	1	6
Tiverton.....	0	0	1	0	0	0	1	2	0	3	2	1	12
Burrillville.....	1	0	0	0	0	0	2	1	0	1	1	2	9
Central Falls.....	2	0	0	0	0	0	0	0	0	0	0	0	2
Cranston.....	1	0	2	1	1	3	0	1	7	1	2	2	21
Cumberland.....	0	0	0	0	0	0	0	0	0	0	0	0	0
East Providence.....	0	0	0	0	0	0	0	0	10	3	0	2	15
Foster.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Glocester.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Johnston.....	3	1	4	2	1	4	2	1	0	6	5	0	29
Lincoln.....	0	0	0	0	0	0	0	0	0	0	1	0	1
North Providence.....	0	1	0	0	0	0	0	0	0	0	0	0	1
North Smithfield.....	10	5	5	1	0	4	1	5	3	6	8	2	50
Pawtucket.....	38	30	42	32	31	11	25	14	25	64	51	44	407
Providence.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Scituate.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Smithfield.....	0	7	3	2	0	0	0	0	0	1	0	0	12
Woonsocket.....	11	3	3	5	8	2	1	0	1	1	3	10	48
Charlestown.....	0	0	0	0	0	0	1	0	0	0	0	0	1
*Exeter.....	0	0	0	0	0	0	0	1	0	0	0	0	1
Hopkinton.....	0	0	0	0	0	0	0	2	2	3	0	0	7
Narragansett.....	0	0	0	0	0	0	0	0	0	0	0	1	1
North Kingstown.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Richmond.....	0	0	0	0	0	0	0	0	0	0	0	0	0
South Kingstown.....	0	0	0	0	0	0	0	0	0	1	1	2	4
Westerly.....	1	0	0	0	1	0	0	0	0	0	0	0	2
Total.....	78	57	68	47	48	29	45	31	58	98	91	81	731
Total, 1905.....	83	61	75	53	65	34	41	55	42	108	59	81	757
" 1904.....	92	91	94	77	63	72	55	69	100	155	130	138	1,136
" 1903.....	75	48	56	45	64	57	64	60	72	112	136	129	918
" 1902.....	53	49	50	35	40	19	20	29	45	50	108	66	564
" 1901.....	71	55	81	31	43	61	19	23	23	77	121	69	674
Yearly avg., 1896-1900.....	79	45	45	47	40	34	29	29	42	78	78	75	612
Yearly avg., 1894-1895.....	49	25	31	24	45	34	31	31	61	85	130	111	657

\*Has no health officer.



## SCARLET FEVER FOR 1906.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For Year.
Barrington.....	0	0	0	0	0	0	1	0	0	0	0	1	2
Bristol.....	3	4	4	0	0	0	1	0	0	0	0	0	16
Warren.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Coventry.....	4	1	0	0	0	1	0	0	0	0	0	1	7
East Greenwich.....	0	0	0	0	0	0	0	0	0	0	0	0	0
*West Greenwich.....	1	1	0	0	0	0	0	0	1	0	0	0	1
Warwick.....	1	0	0	0	0	2	0	0	1	0	0	0	4
Jamestown.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Compton.....	0	1	0	0	0	0	0	0	0	0	0	0	1
Middletown.....	65	32	23	26	49	18	16	8	10	13	13	24	288
New Shoreham.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Portsmouth.....	0	2	0	3	0	0	0	0	0	0	0	0	5
Tiverton.....	1	0	0	0	0	1	0	1	0	0	0	1	4
Burrillville.....	1	0	0	1	1	0	0	0	0	0	0	0	2
Central Falls.....	0	0	2	1	0	2	0	0	0	0	0	0	5
Cranston.....	0	0	0	0	0	0	0	0	2	3	3	7	15
Cumberland.....	1	0	0	0	0	0	0	0	0	0	0	0	1
East Providence.....	1	2	2	1	4	1	0	1	1	0	3	4	20
Foster.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Glocester.....	0	0	0	0	0	3	0	0	0	0	0	0	3
Johnston.....	0	1	0	0	0	0	0	0	0	0	1	12	14
Lincoln.....	2	1	1	1	2	0	0	0	0	0	0	0	7
North Providence.....	0	0	0	0	0	0	1	0	1	0	0	0	2
North Smithfield.....	1	0	0	0	21	8	3	1	0	0	0	3	37
Pawtucket.....	5	2	1	1	1	2	0	0	0	7	7	7	33
Providence.....	43	34	42	39	24	19	13	29	32	72	114	154	615
Scituate.....	1	0	1	0	0	0	0	0	0	0	0	0	2
Smithfield.....	0	1	0	0	0	0	0	0	0	0	0	0	1
Woonsocket.....	4	2	18	2	1	0	1	0	0	0	4	2	34
Charlestown.....	0	0	0	0	0	0	3	0	0	0	0	1	4
*Exeter.....	0	0	0	1	0	0	0	0	0	0	0	0	1
Hopkinton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Narragansett.....	0	0	0	0	0	0	1	3	1	0	0	0	5
North Kingstown.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Richmond.....	1	0	0	0	0	0	1	1	1	0	0	0	4
South Kingstown.....	0	0	4	0	0	0	0	0	0	0	2	2	8
Westerly.....	0	0	0	0	1	1	1	0	1	0	0	2	6
Total.....	134	88	98	75	94	57	44	44	49	96	147	221	1147
Total, 1905.....	88	117	97	92	66	67	29	35	44	52	82	131	900
" 1904.....	264	248	303	291	170	136	64	45	49	50	79	117	1816
" 1903.....	59	49	60	57	88	68	61	51	42	58	64	103	760
" 1902.....	68	42	72	68	79	33	12	30	18	46	32	50	550
" 1901.....	59	48	59	59	52	54	29	26	35	94	76	66	657
Yearly avg., 1896-1900.....	69	60	54	60	47	44	26	26	58	64	76	74	638
Yearly avg., 1894-1895.....	151	113	105	96	70	66	44	40	57	70	95	106	1013

\* Has no health officer.

## TYPHOID FEVER FOR 1906.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For Year.
Barrington.....	0	0	0	0	0	0	0	3	0	0	0	0	3
Bristol.....	2	0	0	0	0	0	1	4	3	0	0	0	10
Warren.....	0	0	0	0	0	0	0	0	1	0	0	0	1
Coventry.....	0	0	0	0	0	0	0	0	0	0	0	0	0
East Greenwich.....	0	0	0	0	0	0	0	0	2	1	2	0	5
*West Greenwich.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Warwick.....	0	0	0	0	0	0	1	0	0	0	0	0	1
Jamestown.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Little Compton.....	0	0	0	0	0	0	0	4	1	0	0	0	5
Middletown.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Newport.....	1	0	1	0	3	1	2	6	4	11	4	2	35
New Shoreham.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Portsmouth.....	0	0	0	0	0	0	0	1	0	0	0	0	1
Tiverton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Burrillville.....	0	0	0	0	0	0	0	0	1	1	4	2	0
Central Falls.....	0	0	0	0	0	0	0	0	1	1	1	1	8
Cranston.....	0	0	0	0	0	0	3	1	0	1	1	1	7
Cumberland.....	0	0	0	0	0	0	0	0	0	0	0	0	0
East Providence.....	0	0	0	0	2	0	0	0	1	0	5	0	8
Foster.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Glocester.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Johnston.....	0	0	0	0	1	0	0	0	0	0	0	0	1
Lincoln.....	0	0	0	0	0	0	0	0	0	0	0	0	0
North Providence.....	0	0	0	0	0	0	0	0	2	0	0	0	2
North Smithfield.....	0	0	0	2	1	0	0	1	0	1	0	0	5
Pawtucket.....	0	0	1	0	0	1	2	0	1	7	1	0	13
Providence.....	3	9	5	10	18	11	44	58	23	11	30	14	236
Scituate.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Smithfield.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Woonsocket.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Charlestown.....	0	0	0	0	0	0	3	0	0	0	1	0	4
*Exeter.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Hopkinton.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Narragansett.....	0	0	0	0	0	0	1	2	1	0	0	0	4
North Kingstown.....	0	0	0	0	0	0	0	0	1	4	1	1	7
Richmond.....	0	0	0	0	0	0	0	0	2	0	0	0	2
South Kingstown.....	0	1	0	0	0	1	0	0	0	4	2	1	9
Westerly.....	0	0	0	0	0	0	0	1	0	0	0	0	1
Total.....	6	10	7	12	25	14	57	81	43	41	51	21	368
Total, 1905.....	5	7	9	11	13	13	42	47	59	50	36	20	312
" 1904.....	9	9	6	6	8	11	7	39	37	42	34	21	229
" 1903.....	23	9	18	18	19	13	20	33	31	49	37	34	304
" 1902.....	11	4	23	9	15	17	25	36	51	60	74	42	367
" 1901.....	19	17	14	14	12	12	8	24	35	48	43	45	291
Yearly avg., 1896-1900.....	18	12	17	10	10	11	13	30	57	66	41	36	321
Yearly avg., 1894-1895.....	82	31	35	20	17	13	22	39	47	61	54	61	482

\*Has no health officer.

## MEASLES FOR 1906.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	For Year.
Barrington.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Bristol.....	1	0	0	0	0	0	2	0	0	0	0	0	3
Warren.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Coventry.....	0	0	0	0	0	4	0	0	0	0	0	0	4
East Greenwich.....	0	1	0	3	5	20	0	0	0	0	0	0	29
*West Greenwich.....													
Warwick.....	1	6	3	0	0	0	0	0	0	0	0	0	10
Jamestown.....													
Little Compton.....	3	5	1					0	0	0	2	0	11
Middletown.....	0	0	0	11	0	0	0	0	0	0	0	0	11
Newport.....	8	18	65	102	32	5	0	0	0	0	2	1	233
New Shoreham.....	0	15	0										15
Portsmouth.....	0	0	6	0	0	0	0	0	0	0	0	0	6
Tiverton.....	0	0	0	0	0	0	0	0	0	0	0	51	51
Burrillville.....	0		0		0								0
Central Falls.....	3	10	2	0	0	0	0	0	0	0	0	0	15
Cranston.....	4	10	14				0	0	0	0	0	0	28
Cumberland.....	8	8	24										40
East Providence.....	0	1	1	0	0	0	0	0	0	0	0	0	2
Foster.....	3	0	6	0	5	6	0	0	0	0	0	0	20
Glocester.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Johnston.....	12	10	15	0	0	0	0	0	0	0	0	0	37
Lincoln.....	0	0	0	0	0	0	0	0	0	0	0	0	0
North Providence.....	0	0	0	0	0	0	0	0	0	0	0	0	0
North Smithfield.....	2	0	0	1	2	0	0	0	0	0	2	0	7
Pawtucket.....	18	10	1	0			0	0	0	0	0	0	29
Providence.....	112	155	129	66	16	16	8	1	0	0	0	0	503
Scituate.....	2	0	4	0	0	0	0	0	0	0	0	0	6
Smithfield.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Woonsocket.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Charlestown.....	0	10	20	10	0	0	0	0	0	0	0	0	40
*Exeter.....	0												
Hopkinton.....	0	2	0	0	2	1	0	0	0	0	0	0	5
Narragansett.....							2	2	2	0	0	0	6
North Kingstown.....	0	0	†50	0	0	0	0	0	0	0	0	0	50
Richmond.....	0	0	0	0	0	0	0	0	0	0	0	0	0
South Kingstown.....	2	1	2			11			2	5	0	3	26
Westerly.....	0	0	0	1	0	0	0	0	0	0	0	0	1
Total.....	179	262	343	194	62	63	12	3	4	5	6	55	1,188
Total, 1905.....	22	34	35	57	63	156	271	26	14	30	130	127	963
" 1904.....	53	37	22	43	49	23	4	5	6	5	15	12	274
" 1903.....	57	103	152	248	239	196	44	7	17	24	24	33	1,144
" 1902.....	100	72	20	18	9	13	3	3	15	79	38	30	400

\* Has no health officer.

†Estimated.

# TUBERCULOSIS.

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## EXAMINATIONS OF SPUTUM.

The examination of specimens of sputum expectorated by persons who are suspected of being afflicted with pulmonary or laryngeal tuberculosis has long been established as a routine method of assistance in making or confirming a diagnosis of the presence of that disease.

The Board introduced this means of assistance to physicians in their daily work in 1894.

It is understood by those who utilize the test that the finding of the organisms of tuberculosis is of positive value. Also that the absence of the tubercle bacillus in a given specimen of sputum does not signify that the disease tuberculosis is absent.

It can be readily understood that the person affected may have only a small lesion or that the sputum discharged may be saliva and not coughed up, that the secretions from the lungs may come from any portion of inflamed surface or that the organisms present may be held in a mass of thickened tissue, and do not happen to escape in this particular specimen at the time of coughing.

When a negative result is found the physician sends in a second specimen for examination, if from the clinical symptoms he continues to believe that tuberculosis is present.

It is assumed that these examinations have a necessary place in the work of a board of health from the fact that, the disease being a communicable one, it is the duty of boards of health to ascertain the presence of all such cases and by warning, prevent those who have the disease from communicating it to others.

The average physician is not, and can not be, properly equipped with the paraphernalia to examine a case which may occur in his

practice only occasionally. He has been fully instructed as to the meaning of the presence or absence of the organism. In many of the schools instruction and actual laboratory practice is given in examining sputum for the organism, but it is impossible for him to carry the staining solutions necessary or to take the time for the examination; and only a very few possess a microscope of sufficiently high power of magnification to distinguish these minute organisms.

The bacteriological laboratory of the State Board of Health, fully equipped with the necessary paraphernalia and with daily experience in examinations, is in a position to give a prompt report as to the result of an examination.

The examination as usually made within twenty-four hours of receiving the specimen, and is reported to the physician having the case in charge, the following day by mail. Reports by telephone are not sufficiently reliable for the report of so serious a determination.

A card catalogue record of these results is kept for reference for the department only. The result of an examination is never given upon the request of any person except the physician sending in the specimen or by some person by him authorized to receive the report. It is the purpose of the Board that these reports be protected securely from the curious friend or neighbor. Likewise, a report to the patient himself is refused on the ground that a misinterpretation of the result may follow to the detriment of the patient and danger to the public. If he receives the report that no tubercle bacilli were found, he may assume that the disease is absent and take no further precautions. If he has the report of a positive finding, he may at once assume a line of treatment with quack remedies; he may become despondent and refuse to seek aid of any kind. If he is obliged to ascertain the result from the physician whom he has consulted, an opportunity is offered at least, to give sound advice in the presence of the disease and in case of a negative result with suspicious clinical symptoms to advise and obtain a second examination of the sputum.

Destructible spit-cups have been furnished free by this department to patients applying for the same, and a large number have availed themselves of this privilege.

In addition to the card catalogue maintained to record the results of examination of sputum, a similar catalogue of all the deaths which are the result of tuberculosis in all forms is preserved for reference. The deaths have been thus recorded since 1890, and are a source of study to those interested in the subject.

The association of T. B. +, or the finding of tubercle bacilli in a specimen of sputum from a certain person, is followed perhaps in a few months or a year by the record of his death, on a blue card. The cases are also recorded by residence.

Many cases will occur in sequence in the same family, frequently at the same address. Often several cases will occur in subsequent months or years at the same residence address, but with different names and different families. This permits of study as to whether the premises may be considered as infected, or whether the unsanitary surroundings of lack of fresh air and sunlight may be the causative factor, or whether the persons who are in reduced circumstances, lacking the necessities of life, may not have acquired the disease abroad and that these certain tenements may be the only refuge they may have.

It requires much patient investigation of many years' records and personal consideration of the cases to admit of satisfactory deductions, but a record of this kind will after several years be of service as a basis for such investigation.



*Results of Examinations of Sputum for Tuberculosis from January 1, 1906, to  
January 1, 1907.*

CLINICAL DIAGNOSIS.	Total.	T. B. present.	T. B. absent.	Past cases of T. B. in family.	At present, cases of T. B. in family.
Bronchitis.....	82	12	70	15	1
Bronchitis, chronic.....	161	34	127	31	1
Pulmonary Tuberculosis.....	715	351	364	170	18
No diagnosis given, susp. T. B....	115	23	92	32	4
Asthma.....	20	2	18	2	.....
Tuberculous Laryngitis.....	20	8	12	4	.....
Intestinal Tuberculosis.....	1	.....	1	.....	.....
Pleurisy.....	16	4	12	1	1
Empyema.....	3	.....	3	.....	.....
After Pneumonia.....	17	3	14	.....	.....
Influenza.....	3	.....	3	.....	.....
Pharyngitis.....	5	1	4	.....	.....
Endocarditis.....	1	.....	1	1	.....
Typhoid fever.....	1	.....	1	.....	.....
Intermittent fever.....	1	.....	1	.....	.....
Liver and Heart disease.....	1	.....	1	.....	.....
Abscess of Lung.....	1	.....	1	.....	.....
"Catarrh".....	1	.....	1	.....	.....
Intercostal Neuralgia.....	1	.....	1	.....	.....
"Cough".....	2	1	1	1	.....
Total.....	1167	439	728	257	25

During the year there were 1167 specimens of sputum submitted for examination, with the supposition on the part of the attending physician that tuberculosis might be a factor in the causation of the symptoms of the patient.

Of these cases, in 715 the clinical symptoms present were sufficiently distinctive to lead the physicians to believe that tuberculosis of the *lungs* was present. In 351 of those cases the examination of the specimen of sputum showed the presence, in greater or lesser quan-

tity, of tubercle bacilli. This would make 49.1 per cent. of cases where the clinical diagnosis coincided with the bacterial findings, while in 364 cases, or 50.9 per cent. the bacilli of this disease were not found. While this negative result is of value, yet it does not carry the weight of a distinct positive, as to the actual presence of the disease, for it is possible to obtain from the patient a specimen of sputum which is composed of only the saliva and secretions from the larynx, and containing none from the air passages in the lungs. The organisms may also be present at times, in the lung, either lying dormant or encapsulated, and will not be discharged into the air passages, and become a part of the sputum, until a degenerative process is set up which breaks down the tissues surrounding the organisms and sets them free.

In the 20 cases of laryngeal tuberculosis, 8 were positive. The application of this method of diagnosis is especially valuable in this form of the disease, inasmuch as the appearance of the larynx may show the presence of ulcerative processes, and the formation of tubercles from other causes.

In 16 cases the diagnosis was pleurisy and 4 gave a positive result. It is of especial value in these cases, for the organism may not as yet have invaded the lung tissue, but if the cases are neglected, they may readily be carried to the lung or intestine, and there propagate the disease.

It is of interest to note that, of 243 cases of acute and chronic bronchitis, in 46 cases the diagnosis was erroneous, and the presence of tuberculosis was established in the bronchi, or in the lungs. The constitution of the patient, however, being sufficiently strong, as yet, to prevent the invasion of the organisms into large areas, the symptoms present were not sufficiently distinct, or alarming, to warn the physician of the dangerous element which was present. In 46 instances, where the diagnosis of bronchitis was made, there had been past cases of tuberculosis in the family.

In the following table is presented the number of samples examined for each of the past seven years, separating the same into positive and negative results:

YEAR.	Total.	T. B. +	T. B. —
1900.....	654	303	351
1901.....	720	327	393
1902.....	623	269	354
1903.....	739	337	402
1904.....	754	334	420
1905.....	822	365	457
1906.....	1,167	439	728

#### RECORDS OF DEATHS FROM TUBERCULOSIS.

In the table which follows it will be noted that there are other forms of tuberculosis than the common tuberculosis of the lungs (pulmonary tuberculosis), called "consumption."

Next to the pulmonary form the laryngeal form is the most communicable. These two forms are sometimes designated as "open tuberculosis," inasmuch as the secretions may be dislodged from the degenerating tissues and brought to the open air, and are disseminated in such a manner that they may reproduce the disease in others. Other forms of tuberculosis occur, such a bone tuberculosis, tuberculosis of the abdominal organs or of the brain, or a general disseminating infection of the whole system. Deaths occur from all of these forms of the disease.

The following table gives the number of cases of death from lung tuberculosis and also of all other forms of the disease, as recorded by this department for seventeen years:

*Deaths from Tuberculosis from 1890-1906*

YEAR.	Pulmonary Tuberculosis.	Other Tuberculosis.	All forms of Tuberculosis.
1890.....	852	130	982
1891.....	740	151	891
1892.....	759	156	915
1893.....	722	146	868
1894.....	705	154	859
1895.....	799	137	936
1896.....	846	143	989
1897.....	777	152	929
1898.....	765	140	905
1899.....	823	168	991
1900.....	850	165	1,015
1901.....	844	150	994
1902.....	791	147	938
1903.....	840	188	1,028
1904.....	793	188	981
1905.....	836	195	1,031
1906.....	797	201	998
Total for 17 years .....	13,539	2,711	16,250

## EXAMINATION OF CULTURES IN CASES OF SUSPECTED DIPHTHERIA.

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The examination of diphtheria cultures has been continued. This procedure has been utilized as an assistance in determining the presence or absence of the Klebs Loeffler bacillus, the bacterium causing diphtheria. This branch of the laboratory work was commenced in 1894, the Rhode Island State Board of Health being the first State Board to carry on this work, following by a month or two its adoption by the city of New York.

The material used for the test or examination consists of the secretions, mucus and cells, found in the back of the throat. This is removed by means of a sterilized cotton swab, which is supplied in the diphtheria culture outfits. The material secured on the swab is smeared on a nutrient sterilized jelly made of hardened blood serum and beef bouillon and supplied with the swab in the outfit.

The whole outfit is delivered by the physicians at certain stations, where an incubator is kept at 37° C. or 98.6° F. The resulting growth or culture on the surface of the media is well-grown or developed in from eight to twelve hours. These growths are examined at the bacteriological laboratory in the State House every morning in the year, and a report made *at once* by telephone to the physician who has presented the "culture" for examination.

This procedure enables the physician to verify his clinical diagnosis of the presence of diphtheria in the throat of his patient by showing the positive presence of the Klebs Loeffler bacillus, or, on the other hand, by the absence of that organism, confirms his diagnosis of pharyngitis or tonsilitis.

In many instances a positive laboratory finding when the patient presents clinical symptoms which are negative for diphtheria has enabled the physician to foresee and forestall by treatment the growth of the diphtheria organisms present and thus prevent the formation of

toxins which act upon the system. The clinical symptoms may not have developed sufficiently to be diagnostic, and the test enables the physician to be prepared for any sudden symptoms of depression in the patient. It also places him on his guard against the spread of the disease to other members of the family. These persons may be more susceptible to the toxic influences of the organisms than the patient who presents the disease in so mild a form as to occasion little discomfort or destructive clinical symptoms.

He may also avail himself of the advantages of protection of the rest of the family by immunizing them against the development of the disease if, as is often the case, the organisms are transmitted from the throat of the patient to them.

By thus being forewarned the physician is prepared to meet the serious symptoms of the disease and to check the action and growth of the organism by the administration of anti-diphtheritic toxin or diphtheria antitoxin. This product has been supplied by the State Health Department free, to those unable to pay for it, since its introduction to the profession. During 1906, 333 packages of 2,000 units each were given out by this department.

The State was early in its belief that the protection of other members of the community from the individual case of a communicable disease was justifiable.

As the State as a whole is protected in this way, the State assumes the expense of the protection. In thus utilizing the State's money it was believed that the public was protecting itself against the spread of the disease by checking it in the individual.

If the individual having the disease was unable to protect himself against others, it was proper that the State protect its taxpayers, as it would in the isolation and sustenance of persons having small-pox.

While the expenses of examination of the cultures from the throats examined and the expense of antitoxin is seemingly considerable, yet the value of the protection afforded is far above the expenditure.

During the year 1906, a total of 1,006 cultures were examined for the presence of diphtheria. Of these, 900 were primary cultures. Of this number the Klebs Loeffler bacillus of diphtheria was found in 228



cases, 78 of these showing a pure, unmixed culture of Klebs Loeffler, and 150 a mixture with micrococci or streptococci. The bacilli were absent in 646 cases. In 26 cultures, the examination showed either contamination or no growth.

There were also examined 106 secondary cultures which were largely those taken in connection with the question of release from quarantine. Of these, 38 showed the presence of the Klebs Loeffler bacillus and 68 were negative. In the secondary cultures there were no cases in which the examination showed either contamination or no growth.

The above figures are shown in tabular form in the following:

*Examinations of Throat Cultures for Diphtheria during the Year 1906.*

	Cultures examined.	K. L. present.	K. L. pure.	K. L. with Mic.	K. L. absent.*
Primary.....	900	228	78	150	672
Secondary.....	106	38	.....	.....	68
Total for year.....	1,006	266	.....	.....	740

\* Includes "Contamination" and "No Growth" cultures.

In the following table is presented the total number of cultures examined for the past 7 years, subdivided into positive and negative groups and these also into primary and secondary cultures:

YEAR.	Total Examined.	POSITIVE.			NEGATIVE.			"CONTAMINATION" AND "NO GROWTH."	
		Total.	Primary.	Secondary.	*Total.	*Primary.	*Secondary.	Primary.	Secondary.
1900.....	1,382	430	300	130	952	749	203	19	5
1901.....	1,638	564	314	250	1,074	835	239	56	26
1902.....	1,433	405	308	97	1,028	869	159	39	6
1903.....	1,316	374	297	77	942	808	134	68	20
1904.....	1,894	634	484	150	1,260	1,043	217	46	6
1905.....	1,261	360	285	75	901	788	113	27	4
1906.....	1,006	266	228	38	740	672	68	26	0

\* Includes "Contamination" and "No Growth" cultures.

## EXAMINATIONS FOR THE WIDAL REACTION IN CASES OF SUSPECTED TYPHOID FEVER.

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The discovery by Widal that persons who had been affected with typhoid fever for a certain period of time developed within the system a certain toxic product which had the power of checking the life of the true typhoid bacillus grown outside of the body, has been utilized by the Board, as has been done in other States and certain cities.

This reaction is obtained by securing from the ear or the tip of the finger of the patient a single drop of blood. The serum of this blood, when mixed in certain proportions of strength with a large quantity of the living typhoid bacilli, causes the live organisms to grow sluggish in their motile action and finally to unite with others in the same mixture, producing a massing or clumping of the organisms.

This reaction may take place in from twenty to ninety minutes, according to the strength of the toxic or antitoxic material in the blood serum tested.

The organisms which are subjected to the test must be at least twenty-four hours old, and not older. This necessitates the planting and growing of a fresh culture every twenty-four hours. To accomplish this, nutrient media of blood serum or agar-agar must be kept on hand to continue the growth of the culture for stock purposes. From this stock growth, the amount of organisms which may be gathered upon the tip of a needle is introduced into a nutrient media of beef broth or bouillon and here grown for the twenty-four hours.

As these facilities and all the paraphernalia necessary to make this test are not available to the average physician, it is necessary for some central laboratory to undertake this work.

As typhoid fever is a communicable disease, it is the duty of all state and municipal boards of health to aid the physician in such cases as far as possible by determining for the physician the presence of the disease, the public as a whole receiving the benefit of an early confirmation of diagnosis, resulting in the better care of the patient and proper disposal of his excreta.

To facilitate the offer of the Board to make this test for physicians, typhoid "outfits" are placed at all the depositories where diphtheria culture tubes and sputum outfits may be obtained.

This outfit consists of a card upon which the history of the case may be entered, the name of the physician, etc. Also a small piece of thin sheet aluminum to receive the drop of blood taken from the patient, a three-cornered glover's needle for puncturing the skin, and a small wire loop for transference of the drop of blood from the skin to the aluminum plate.

A report of the result can usually be given to the physician, by telephone, on the morning following the day upon which the sample is received.

As a result of this offer of assistance, physicians availed themselves in many positive cases, and in many cases in which they were somewhat in doubt, as is shown by the following table:

Positive.....	119
Negative.....	230
Unsatisfactory.....	5
<hr/>	
Total.....	354

In the following table is shown the number of examinations made for the Widal reaction during the past 7 years, together with the results:

Year.	Total.	Positive.	Negative.	Unsatisfactory.
1900.....	142	43	91	8
1901.....	175	70	102	3
1902.....	168	47	111	10
1903.....	185	72	105	8
1904.....	177	48	122	7
1905.....	295	92	192	11
1906.....	354	119	230	5

# THE WORKING OF THE MEDICAL PRACTICE ACT

## EXAMINATION OF APPLICANTS.

Under the act controlling the practice of medicine in this State, which was passed in 1895, provision was made that certificates or licenses to practice medicine should be issued to all persons who had been in practice for three years previous to the passage of the act. This necessarily included a certain number of ignorant practitioners and charlatans who had had no medical education. Any regular physician, whether previously in practice in the State, or on coming into the State and presenting a diploma from a medical school in good standing, recognized by the Board as such, was also entitled to receive a certificate. Certificates different in form and appearance were issued to these two distinct classes of practitioners. The first form was known as a "time limit certificate." If the school had no standing whatever, or the applicant was a non-graduate, such applicant was required to take a full examination in the several branches of medicine. If the school from which he graduated had a fair standing only a supplementary examination was required in the three principal branches.

The examinations were presented in writing. The full examinations included questions in the branches of Anatomy and Physiology, five questions each; Chemistry and Materia Medica, five questions each; Theory and Practice, ten questions; Surgery, ten; Obstetrics and Gynæcology, five each; Pathology, ten; and Hygiene and Medical Jurisprudence, five each. A general average of 75 per cent. of correct answers was required. The supplementary examinations included only Theory and Practice, Surgery, Obstetrics and Gynæcology. It was assumed that if the applicant showed a good average knowledge of the three most important branches, although the school from

which he graduated did not give a full four years course, yet it might have given a satisfactory preparation to the applicant.

In 1901, the law was changed, providing that an examination be required from all applicants, whether from schools having good qualifications or not, or if the applicant was a non-graduate. This examination included all the subjects named above.

During the present year there were 85 applications, action upon which was as follows:

#### EXAMINATIONS, 1906.

Passed first examination. (Graduates).....	48
Passed first examination. (Junior year in college).....	1
Passed second examination. (Graduates).....	3
Passed third examination. (Graduates).....	1
Passed fourth examination. (Graduates).....	2
<hr/>	
	55
Failed on first examination. (Graduates).....	11
Failed on first examination. (Junior year in college).....	1
Failed on first examination. (Non-graduate).....	1
Failed on second examination. (Graduates).....	6
Failed on second examination. (Non-graduate).....	1
Failed on third examination. (Graduates).....	4
Failed on third examination. (Non-graduate).....	1
Failed on fourth examination. (Graduates).....	2
Failed on fourth examination. (Non-graduate).....	1
Failed on fifth examination. (Graduates).....	2
<hr/>	
	30

Percentage of applicants passing (55 out of 85)=64.7 per cent.

Percentage of applicants passing first examination (49 out of 62)  
=79.0 per cent.

The following table gives the percentage acquired by the applicants coming from different schools.

It is interesting to note that the average percentage of those who passed is considerably higher than the required 75 per cent., while the average of those who failed is considerably below that mark, being only 65.0 per cent.



## RESULTS OF EXAMINATIONS DURING 1906.

NAME OF COLLEGE.	Number passed.	Percentage.	Number Failed.	Percentage.
CONNECTICUT:				
Yale University.....	4	<div>88.4</div> <div>80.1</div> <div>82.3</div> <div>87.0</div>	0	
DISTRICT OF COLUMBIA:				
Georgetown University.....	1	75.1	0	
KENTUCKY:				
Kentucky School of Medicine.....	1	75.0	2	<div>70.6</div> <div>62.6</div>
MAINE:				
Bowdoin College.....	1	75.0	0	
MARYLAND:				
Baltimore Medical College.....	3	<div>79.4</div> <div>80.6</div> <div>81.8</div>	1	65.9
Baltimore University.....	2	<div>75.1</div> <div>76.8</div>	2	<div>72.7</div> <div>65.9</div>
College of Physicians & Surgeons.....	5	<div>75.1</div> <div>81.3</div> <div>81.0</div> <div>75.4</div> <div>83.9</div>	0	
Johns Hopkins University.....	2	<div>83.6</div> <div>80.1</div>	0	
Maryland Medical College.....	1	76.0	3	<div>61.5</div> <div>68.5</div> <div>*</div>
MASSACHUSETTS:				
Boston University.....	2	<div>76.9</div> <div>75.9</div>	0	
College of Physicians & Surgeons.....	1	86.7	2	<div>68.1</div> <div>73.1</div>

\* No mark given:—applicant sent a substitute to take examination.

## RESULTS OF EXAMINATIONS DURING 1906.—Continued.

NAME OF COLLEGE.	Number Passed.	Percentage.	Number Failed.	Percentage.
MASSACHUSETTS—Concluded:				
		90.1		
		78.5		
		88.0		
		88.6		
Harvard University.....	10	78.0	0	
		88.9		
		80.3		
		87.2		
		82.9		
		86.1		
		75.1		
Tufts Medical College.....	4	79.3	0	
		84.4		
		82.6		
NEW YORK:				
		84.1		
		82.1		
College of Physicians & Surgeons.....	6	82.6	0	
		75.5		
		83.1		
		75.0		
Cornell University.....	1	77.9	0	
University Medical College.....	1	75.0	0	
PENNSYLVANIA:				
Jefferson Medical College.....	1	88.6	0	
TENNESSEE:				
University of the South.....	0		1	61.0
VIRGINIA:				
University College of Medicine.....	1	80.6	0	

## RESULTS OF EXAMINATIONS DURING 1906.—Concluded.

NAME OF COLLEGE.	Number Passed.	Percentage.	Number Failed.	Percentage.
CANADA:				73.2
				70.8
				62.2
				68.4
				55.6
Laval University.....	3	{ 80.4 .... 79.4 78.2	12	{ 59.9 62.7 65.8 73.7 69.5 69.9 71.4
FOREIGN:				
University de Gand.....	0		1	59.6
		{ 75.0 ....		
University of Naples.....	4	{ 75.0 75.0	1	56.4
		{ 75.0		
				55.4
				61.1
NON GRADUATES .....	1	75.1	5	{ 65.0 66.0 54.6
Totals and averages.....	55	80.4	30	65.0

By reference to the foregoing tabulation it may be determined which of the various schools are graduating the best students. The record of these results for a year, or for several years, presents the quality of medical education of these schools. There may be occasionally a graduate from the best schools who under the stimulus of the final examination at his school may succeed in passing, but when tested by a set of practical questions, and removed from his alma mater, fails to express the knowledge which he may possibly have acquired. But when a succession of applicants from the same school can manifest a lack of knowledge on the every day happenings in medicine, it leads one to infer that such a school is not giving the student a fair exchange for the time and money spent in his course in that school. The criticism that perhaps the examining board presents too stringent an examination or that they are too strict in their markings may be refuted by comparison of the results with the results obtained by applicants from some of the colleges, which comparison is made possible by this table.

If seven to eight out of ten applicants secure good results on their first examination, it would seem as if the minority might be able to make a better showing.

If medical schools were conscientiously alive to the interests of their institutions they might readily, by reference to the reports of the several examining boards, determine their position in comparison with other schools. If they desired to advance the standard of the school they might further ascertain in what branches their graduates failed to pass and improve the character of instruction along the weak lines.

#### SIMILAR SIMULTANEOUS EXAMINATION IN FOUR STATES.

At a meeting of the Confederation of New England States Medical Examining and Licensing Boards held in the early part of 1905, it was agreed between the delegates present to provide a set of questions which might be submitted to the applicants for certificates to practice

medicine at the regular July examinations. Dr. Edward Harvey, Secretary of the Board of Examiners in Massachusetts and Dr. G. T. Swarts, Secretary of the Rhode Island State Board of Health, were appointed as a committee to prepare such a set of questions. It was found impracticable for the Examining Boards of New Hampshire and Vermont to co-operate.

In order that the questions might not be released by one board before the examination date of another board, thereby permitting the candidates to secure the questions in advance, a date was set upon which the same questions were given.

By this experiment it was thought that the comparative stringency of the markings in the different states might be determined.

The results were reported and assembled in January, 1906, and were as follows:—The number examined in Massachusetts was 141, of whom 15.60 per cent. failed. In Rhode Island, 33, of whom 15.15 per cent. failed. In Connecticut, 27, of whom 14.81 per cent. failed. In Maine, 42, of whom only 1 or 2.38 per cent. failed.

It will be observed that the stringency of the markings was about equal in three of the states. In Maine, however, the percentage of failures was very small. This showing would suggest the inquiry whether the examining board of Maine was more lenient or whether the character and ability of the applicants might be above the average. In this connection it should be noted that while the applicants in the three states mentioned were from a large number of different colleges, those in Maine were largely from the Bowdoin Medical College, and the applicants from this school usually secure a good marking before all boards.

When the subject of reciprocity is under consideration, this experience or test is of value as demonstrating the impracticability of accepting the license of any state for reciprocal issuance of a license in another state without being fully informed as to the personal equation of the board of examiners, the personality and influence of each member upon said board, the manner of appointment of the members of the board; and the carefulness and justice with which the examina-

tions are conducted. Without this knowledge the issuance of any reciprocal license to a state having equal requirements as expressed in a law or on paper is not a safeguard to the people.

#### REQUIREMENT OF PHOTOGRAPH OF APPLICANTS.

During one of the quarterly examinations held during the year, an inquiry was made by one of the applicants as to whether any of the applicants present were graduated from his medical school. An applicant sitting in the front row was pointed out to him as presenting a diploma from the same school, and applying under the name of S. the name of the applicant being mentioned. The inquirer expressed astonishment and unhesitatingly stated that the man pointed out did not possess the name given and that he recognized him as another member of his graduating class and a friend of S., but he stated positively that this man's name was not S. which appeared on the application blank, but was Z. Upon further examination of the application blank it was discovered that the name of Z. was signed as one of the three references of the applicant S.

Thereupon, the Secretary of the Board who was presiding at the examination inquired of the man who was taking the examination and was assuming to be S. whether he recognized the signature of Z. the reference as being Z's own signature or had it been filled in by the applicant S. He replied that Z., his reference, had written the signature and address himself. He was also asked if he knew where Z. was at the present time, an embarrassing question if he was Z.

In the conduct of the examination the applicant writes his name on the cover of each book or subject presented. This gave an opportunity to make a comparison of the signature of the man taking the examination with the signature on the application blank. The writing in the examination paper was also compared with the subject matter in the application blank, but while the two did not coincide, some of the letters in the signature of the reference Z. bore a similarity



to some of the characters in the subject matter of the examination papers.

Assuming that this case was one of substitution, evidence was secured through the inquiring applicant and through the interested co-operation of the Dean of the school. Photographs of both S. and Z. and examination papers of S. while in medical school were secured and compared with the examination papers of the person who undertook the examination.

From a careful examination of the evidence and the exhibits at hand, the Board felt warranted in deciding that a case of substitution had been practiced upon it.

Refusal to grant a license to the real applicant who had not taken the examination was met with protests and demands, but was not pressed to legal proceedings.

During the inquiry in the city where the applicant had been to college, information developed showing that he had been under prosecution for several misdemeanors; conducting a drug store without a license, and the illegal sale of cocaine and liquor.

It further developed that it was his intention to establish in the city of Providence a dispensary with assistants and to work upon the gullible public with specious advertisements and to fleece them of their money. This he had already accomplished in the city of Boston, having secured a license to practice in that state by examination, either personally or by substitute, some time previous to his alleged appearance in this state.

This experience prompted the Board to make a requirement that each applicant present a recent photograph of himself at the time of the examination.

This requirement exists in the States of New York and Connecticut.

The photograph being filed in the records of the board would serve as a means of identification should the person who opened an office prove to be other than the one who took the examination, and this rule would act as a deterrent upon anyone intending to attempt deception by substitution.

It is an impossibility for the person conducting an examination to carry in his mind the exact facial characteristics of all of the applicants examined during the course of a year. During one examination, several men being of the same age present a certain type of face which is so similar to the other groups in the other examinations that they make little impression on the mind.

The board at one time had a borrowed diploma foisted upon it by an applicant, and certificate was issued thereon. The man practiced for over a year in the State before the falsification was discovered. The name of the owner of the diploma was the same as that of the applicant. Ignorance in the manner of practicing and the advent of old classmates led to the discovery of the fraud, and the certificate was revoked after due hearing.

#### REQUIREMENT THAT EXAMINATIONS BE CONDUCTED IN THE ENGLISH LANGUAGE.

Applicants who were citizens of foreign countries and graduates from foreign medical schools who were not familiar with the English language, had, up to this year, been permitted the assistance of an interpreter in the conduct of the examination.

This allowance which at first seemed to be fair and just to the applicant, presented disadvantages for the proper judgment of the applicant's knowledge of medicine.

The length of time permitted for the examination was necessarily more extended than in the test given to the other applicants. While the Board might have confidence in the integrity of the interpreter, yet the personal unintentional tendency of the interpreter would often lead him in translating to correct or assist the applicant by improving on the applicant's statements and possibly his knowledge, for the interpreter would naturally be selected by the applicant on account of his familiarity with the subject of medicine and the interpreter might at times be more competent to take the examination on certain subjects than the applicant himself.

This procedure often also worked an injustice to the applicant himself in case the interpreter was not versed in technical terms or meanings and answers would sometimes leave the examiners in doubt as to whether the applicant understood the subject at all or not.

It was therefore decided by the Board this year, that all examinations should be submitted in the English language.

Upon inquiry it was ascertained that no interpreters were allowed in the examinations held by the examining boards in Maine, New Hampshire, Vermont, Massachusetts or Connecticut.

As stated by a member of the Connecticut examining board, "A man who desires to practice medicine in our State should at least take the trouble to learn our language. To understand the laws, both civil and medical, and to make thus a desirable citizen, a man must read English."

The registration of physicians of the Board shows a large number of physicians of all nationalities in proportion to the number of foreigners living in the State. Furthermore, there are many well-educated physicians from the various nations who not only speak their own language, but are familiar with English, and who would be competent to pass the examination, and men of such knowledge and ambition would be of greater value and protection to their brethren than those who were less well educated.

#### SUPREME COURT OPINION IN "MACOMBER" CASE.

In the previous report of this board there is described in detail the action taken against Dr. W. S. Macomber, who had employed certain methods of practice which to the Board appeared to be of a character which was likely to deceive and defraud the public. After due examination and investigation of the evidence to support this conclusion, the Board had revoked the certificate of the physician. As was his right he had appealed to the Supreme Court for a reversal of the decision of the Board. This case was remanded by the court to a master, who took evidence and listened to the arguments from both the

physician and the State Board of Health and the evidence was considered by the Supreme Court, which after some time handed down a decision which reversed the action of the Board.

The following is the complete decision:—

PARKHURST, J. The appellant was notified by notice dated March 20, 1905, to appear before the State Board of Health on the 23rd day of March, 1905, to show cause why his certificate to practice medicine in the State of Rhode Island, should not be revoked, under Chapter 165 of the General Laws; and on said 23rd day of March, said appellant did appear, and the said Board after hearing evidence for and against the said appellant, on the charges preferred against him by the Secretary of the said Board, and hearing the arguments of counsel on his behalf, found that the said appellant was guilty of gross unprofessional conduct, and of conduct of a character likely to deceive and defraud the public, and that in its opinion said appellant was an unfit person to practice medicine in this State, and that the certificate heretofore granted to said appellant to practice medicine in this State was thereby revoked; and so notified the appellant.

From the decision of the said Board, the said appellant appealed to this court, under Chap. 165, Sec. 5 of the General Laws of this State.

A careful examination of the testimony presented to us in this appeal does not, in our opinion, furnish sufficient ground upon which we can support the finding of the State Board of Health, that the appellant was guilty of "gross unprofessional conduct" or of "conduct of a character likely to deceive and defraud the public."

A number of advertisements from Providence papers relating to cures or alleged cures said to have been made by use of the "Electricure," a devise for which one David S. Fraser was agent in this State, are produced by the State Board, upon a few of which appear the name of the appellant as "specialist" or as "physician in charge," also certain circulars and advertisements purporting to explain the "Electricure" and exploiting in growing terms its powers in the cure of numerous diseases. It is evidently the intention of the State Board

that this court shall *infer* from the language of these various advertisements that the statements therein contained are untrue, that the claims made are extravagant, and therefore likely to "deceive and defraud the public" and that Dr. Macomber, the appellant, by allowing his name to appear upon some of them or by distributing some of them to his patients or to inquiring parties, has been guilty of conduct as above set forth.

Unfortunately, however, the State Board has not seen fit to offer any testimony to show that any one of the statements set forth is untrue in fact, or even if it is extravagant or misleading or tending to "deceive" or "defraud the public." The evidence is submitted to this court as if the court were a body of medical experts fully qualified to pass upon all the numerous medical questions involved. It is hardly necessary to say that this court disclaims such qualification and cannot take judicial notice of such matters, but is bound to form its judgments in such matters solely upon evidence adduced before it.

Again, with regard to the device known as the "Electricure" about which the State Board of Health seems to desire us to *infer* that it is a deception and a fraud; the Board is satisfied to place before us the evidence of a *single* application of this device to a person not shown to have been suffering from any disease, and not shown to be of any expert capacity in the observation or investigation or devices of this character, and desires us to *infer* from the apparently negative character of this single experiment that the repeated application of this device, according to the directions given by its inventor, is of no value to the patient, and therefore is a fraud and tends to "deceive and defraud the public." This evidence is purely negative and does not assist the court in coming to any conclusion regarding the value or want of value of the device in question.

As to the mechanical efficiency of the "Electricure" whether or not it is capable of producing an electric current or "thermal electricity" it would have been very simple to have subjected the device to the examination of well-known electrical experts, under the conditions named in the circulars, and to have shown whether or not in



fact any such electrical energy was produced; but the Board have not seen fit to do this; the tests applied not having been made by persons qualifying as experts, and such tests as were applied appearing to be only partial and not in accordance with the conditions specified in the directions for use.

The most cogent evidence to show that the appellant had been guilty of "gross unprofessional conduct and of conduct of a character likely to deceive and defraud the public" would have been evidence from one or more persons that he or they had been actually deceived or defrauded, had been led into expense without adequate benefit, or had been told that they would be cured of any of the various diseases mentioned, and had taken the treatment without results, or with bad results; or that the statements made as to cures actually effected were in fact untrue. The Board has produced no evidence of this character; but on the contrary the appellant has produced seven witnesses of apparent respectability and intelligence, none of whom are in any way discredited or impeached or contradicted, and all of whom testify to substantial relief or cure of serious disorders or disabilities. Dr. Macomber himself in his testimony shows that he did not in any instance attempt to "deceive" or "defraud" his patients by any extravagant claims, or promises, and that he did not demand pay from them unless they themselves were satisfied with the treatment and its results.

On the whole case, while the Board has succeeded in raising some considerable suspicion in our minds as to the matters in question, we are satisfied that the evidence is not sufficient to warrant the revocation of the appellant's certificate, in that it does not show that the appellant was guilty of such conduct as charged.

The decision of the State Board of Health is overruled.

BLODGETT, J., dissenting. I am unable to agree with the conclusion to which my brethren have come, that the evidence does not show "that any one of the statements set forth is untrue in fact or



even that it is extravagant or misleading or tending to 'deceive or defraud the public.'"

To my mind the evidence establishes each of these propositions and I shall therefore indicate, at some length it may be, the undisputed evidence upon which I feel constrained to dissent from the opinion of the majority of the court.

In the first place it is undisputed that the appellant Macomber used the device known as "The Electricure" and that he distributed generally and gave to the Secretary of the State Board of Health, the "Blue Book" ("Exhibit 15") which contains *inter alia* the following statements: "The Electricure" . . . "Absolutely Cures Consumption, Female Complaints, Paralysis, Rheumatism, Heart Disease, and all Acute, Chronic and Organic Diseases, no matter what their name or origin." . . . "It is no faith cure or necromancy, but is the practical application of the greatest discovery—the giving of oxygen—of this wise age for the cure of all human ills, and all ailments of beasts as well, for the principle affects equally all living kind." . . .

"Two distinguishing qualities that make it vastly superior to all other means of curing disease and relieving pain, mark its successful work thus far, namely:"

"It is safe in its operations, reliable in its effects."

"The effects of the *Electricure* must not be confounded with a battery, dynamo or static electricity or galvanism, in any form that has ever been given to the public; and its operations are not like any electrical or magnetic device as it is a practical application of a law of thermal electrical action, the result of phenomena (sic) gathered in the field of Nature, around which no fences are, and he who will may enter and dig—truth—with which to bless mankind; hence in comparison with other devices, founded upon the principles of electrical science that have been given to the public, attention is called to this phenomena. (sic)"

"1. That its electrical currents are sensible on first application to about one person in ten; on the second, to one in one hundred;

and on the third, to one in ten hundred" . . . it "is operated without assistance whenever water or its equivalent in temperature can be had; altogether it is a marvel of construction, adaptability and convenience; and is the most adequate life agent of the century—having distanced all its eager competitors in the grand race for amelioration of human suffering by the direct application of the greatest forces of the universe—thermal electricity and oxygen, as it kills every microbe in the system." . . .

"Let no invalid despair or seek the sea, the mountain or a foreign shore in search of health—perchance to die—when it can be surely found at home by the intelligent use of the Electricure, for cures are wrought by it that under the old system of medication are impossible."

These citations are set forth at some length in order that the exact representations made may be precisely stated.

It thus appears that the promise is not of benefit or of alleviation, but of "absolute cure" that is it is not limited to certain diseases, but embraces "all Acute, Chronic, and Organic Diseases, no matter what their name or origin" that this promise is not inadvertently made but is repeated again and again in substance though in different forms of expression, including diseases peculiar to animals and from which man is free. That the device does not act by suggestion or through the imagination ("It is no faith cure or necromancy"), but is "the most adequate life agent of the century" for working cures and that "cures are wrought by it that under the old system of medication are impossible." More comprehensive claims could hardly be made on behalf of the fabled *Elixir Vitae* of the ancients.

Now it is evident that the representation that this device "absolutely cures" . . . "all Acute, Chronic, and Organic Diseases, no matter what their name or origin" is either true in all respects, untrue in all respects, or true in some cases and untrue in other cases. If therefore this court can not sit as a body of medical experts and assume that such representations are untrue in any respect, without evidence, can the court sit as a body of medical experts and assume that such representations are true in all respects without evidence? The

representations are disproved by evidence of a single exception. They are not sustained except by proof in all instances and surely he must indeed be wise in the science and skill in the art of healing who will assume the burden of affirmative proof in such a case. Hence it requires an even higher degree of expert knowledge to assume the correctness of such a contention in every case than to deny its correctness in a given instance. But the record is not wanting in testimony that these representations are false. The appellant Macomber himself testifies in his direct examination as follows: Q. 16. Did it in all cases greatly benefit the patients? Ans. No, not in all cases. Some of the cases that I treated there was no change one way or the other. Those cases however were very few." In direct denial of the representations contained in the pamphlet which he distributed to the public, he says: "Q. 26. Do you claim that the Electricure will cure all kinds of diseases? Ans. I do not and never did." His testimony on cross-examination further established the falsity of these representations as follows: "C. Q. 136. Do you recollect your testimony in the hearing before the State Board of Health in regard to this matter? Ans. I think I do. C. Q. 137. Do you recollect that you testified before them that you believed the electricure would cure all diseases with the exception of locomotor ataxia? I am asking now as to your recollection. Ans. As to what I believed at that time? C. Q. 138. No; I am not asking that; I am asking you now as to your recollection of what you testified to at that time. Ans. I think I did testify to that effect. C. Q. 139. You did? Ans. Yes. C. Q. 140. Have you changed your mind? Ans. I have. C. Q. 141. To what extent? Ans. Well, I found certain cases that I hadn't been treating but a short time at that time, that under continued treatment, I am convinced, that they could not be cured by the electricure." . . . "C. Q. 154. Then I understand you have changed your belief to that extent since the hearing before the State Board of Health? Ans. Yes; I will name one more that comes in my mind now that I don't think it will cure, that is, cancer. C. Q. 155. Do you still believe that it will cure gall stones? Ans. I don't

think I ever testified that it would cure gall stones, that is, that I have said that it cured gall stones I never saw a case treated for that. C. Q. 156. I am asking you about your belief: Do you still believe that it will cure gall stones? Ans. I have not any belief about that. C. Q. 157. Do you still believe that it will cure stone in the bladder? Ans. No; I don't believe it will. C. Q. 158. Can you tell what caused you to change your belief about its ability to cure stone in the bladder? Ans. My observation with the electricure. C. Q. 159. Do you believe that it will cure chronic senile dementia? Ans. No. C. Q. 160. Do you still believe that it will benefit it? Ans. Yes; benefit it, benefit the patient. C. Q. 161. Do you believe it will cure consumption? Ans. In some cases, not all. C. Q. 162. What distinction do you make between them? Ans. My observation has been that consumption, in the primary, in the early stages can be cured by it, but in the later stages can't. C. Q. 163. Do you still believe it will cure diseases of the kidneys? Ans. Some diseases of the kidneys. C. Q. 164. Dropsy? Ans. Yes. C. Q. 165. Pneumonia. Ans. Yes. C. Q. 166. Appendicitis? Ans. Yes. C. Q. 167. Diphtheria? Ans. Yes. C. Q. 168. Organic heart disease? Ans. Well, I don't know; some forms of heart disease under my observation have been benefited by it, but some forms of heart troubles I have not treated or attempted to treat with it. C. Q. 169. The question was:— Organic heart diseases? Ans. Some functional troubles of the heart. C. Q. 170. Do you call those organic? Ans. No. C. Q. 171. My question was:—Organic? Ans. You are asking me what I believe it will cure? C. Q. 172. Do you still believe it will cure organic heart disease. Ans. No." . . . (p. 88) "Q. 121. Do you still claim that the electricure will cure tuberculosis, appendicitis, pneumonia, diphtheria, and so forth, and all the other diseases enumerated in that circular, excepting locomotor ataxia? Ans. Tuberculosis in its early stages; I do not make any claim for it in its other stages. The other diseases named by you are acute diseases,—diphtheria, appendicitis, pneumonia. Q. 122. Do you claim it will cure all acute diseases? Ans. Yes; I do.

Q. 123. The chronic diseases you do not claim that it will cure?

Ans. Not in all cases; some chronic cases, it will, so far as my observation has led me."

So, too, the evidence is undisputed as to the construction and action of the device for which the sum of \$30 was charged.

The testimony of the chemist for the State Board of Health, Mr. Pratt, is as follows: "Q. 8. Did you make any further test, Mr. Pratt; did you examine the interior of this (referring to the instrument)? Ans. I looked the apparatus over with the idea of studying its inner construction and saw from the wiring that it was expected by the parties who constructed the machine, that the electric current if such was the virtue of the machine, was to travel in both directions through a solid bar, contrary to the ordinary understanding of electric matters." . . . "Q. 10. Is there a composition that could be placed in that instrument like that which would generate electrical energy? Ans. Not to my knowledge, to connect it up in the way this is, namely, placed in a water solution, simply in a water solution." . . . "Q. 14. As I understand you, then, with this instrument in water as the directions direct, it is impossible to generate electricity? Ans. In my judgment it is."

Nor is the testimony of the Secretary of the State Board of Health, Dr. Swarts, denied. He says: "Q. 22. What test did you put to it, Doctor? Ans. The first test was to determine if it had any electrical energy as evinced by the test of the amperage or voltage, as is customary with electrical tests. Q. 23. How is that test made? Ans. By placing in the circuit of the instrument in operation an ampere meter or a volt meter,—one indicating the amount of the current and the other the amount of the force. Q. 24. What did it show, in either case? Ans. There was no indication that there was any current of any kind, or any electro-motive energy of any kind."

The method or treatment prescribed by the directions (exhibit 20'') for all the diseases which the appellant Macomber still claims can be cured by this device is the same for appendicitis as for pneumonia, for dropsy as for diphtheria, viz.: "First soak feet in hot



water for six to eight minutes before taking first treatment." Then "Apply for one hour for five successive treatments, on No. 4." The "No. 4" is the number upon the switchboard which, upon examination appears to be so constructed and wired that even if electricity were generated, inasmuch as all the sections are permanently connected, there can be neither increase nor diminution of the current. Then "Allow one week for reaction and resume as before, for five treatments, and so continue until cured, save that ten to fourteen days should be allowed for reaction between each course after the first period of one week."

Inasmuch as "its electrical currents are sensible in first application to about one person in ten, on the second to one in one hundred and on the third to one in ten hundred" it is not difficult to understand the length of time which must elapse before the patient first begins to doubt of its efficacy or abandons the treatment in despair, if, indeed, death does not meanwhile supervene; or it may be, that by the passage of time, the *vis medicatrix naturæ* may again establish its dominion over the disease. Why the vitalizing effect of the treatment diminishes in perceptibility in a ten-fold ratio upon successive applications is not explained.

In view of this record and the language of the statute (Sec. 2, Chap. 926, Pub. Laws), which prohibits conduct "*likely* to deceive or defraud the public" and does not require actual proof of such fraud or deception, the finding of the State Board of Health revoking the appellant's license on that ground should be affirmed.

The board had evidently erroneously assumed that the statements made by a physician in his offer to cure many incurable diseases, and the character of the instrument which was presented in evidence, would appeal to the scientific judgment of the ordinary high school student in physics or to the layman as being frauds. But from the decision it appears that it was desirable and necessary to present evidence showing that some one had been injured or had failed to receive benefit from the advice and treatment given in order to offset



the evidence of certain persons who claimed to have received benefit by treatment for diseases which were simple in character, in some cases merely functional, which would have recovered under the use of suggestive treatment alone, but who perhaps were benefited somewhat by the psychological effect of the mysterious instrument and the wonderful powers alleged.

While the effect of decisions of this character, coming from a learned and respected legal tribunal might prove a discouragement to the body or commission having charge of the protection of the people against ignorant practice of medicine, yet it sometimes proves as a stimulus, and as it is all in the day's work to be repulsed at times when one apparently should succeed it becomes an additional duty to secure more evidence and seek more cases of infringement of the laws under which the prosecuting officer is required to bring actions before the courts.

#### CASE OF STATE VS. THOMAS J. HEFFERNAN.

The case against Thomas J. Heffernan which was entered in the district court in May, 1905, in which the defendant was found probably guilty and was remanded to the grand jury where he was indicted and held for trial before the Superior Court and jury there to be found guilty, from which verdict exceptions were taken on the ground of jurisdiction as brought out in the previous report of this board, was advanced somewhat in its course in the courts this year.

The following is the history of the progress of the case up to the end of the year 1906, and illustrates the slow and methodical manner in which justice may be delayed if advantage is taken of all the privileges of the law. This case which has been under consideration for two years is as far from a conclusion almost as at the beginning. This necessarily works a hardship upon the defendant, although he may receive advantage by delay, and it also adds largely to the labors of the prosecuting officer of the state and the expenses attendant upon the sitting of the court, at the same time delaying the advancement of other cases perhaps of more important matters in some ways.

May, 1905. Case tried in district court.

September, 1905. Grand Jury returned indictment.

December, 1905. Case tried before Superior Court and jury. Verdict of guilty.

January and February, 1906. New trial denied and notice given that exceptions which had been noted would be prosecuted.

June, 1906. Exceptions overruled, and case remanded to Superior Court for sentence. Defendant files motion in arrest of judgment.

July, 1906. Motion in arrest of judgment denied. Defendant files exceptions to denial of this motion.

October, 1906. Defendant files additional grounds in arrest of judgment. Matter before court.

## SANATORIA FOR CONSUMPTIVES.

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### STATE SANATORIUM.

The State Sanatorium is located at Wallum Lake, in the north-western part of the State, in the town of Burrillville, at an elevation of about 600 feet. It was erected by a commission which was appointed at the January session of the General Assembly in 1902.

It secured a site of 250 acres, much of which consists of wooded land bordering on Wallum Pond. The buildings had been erected and the interior was being finished at the end of the year 1903.

The building consists of an administration building 74 feet long, 47 feet wide and 33 feet high, admitting of a three-story structure. From the rear of this building short covered corridors connect with two wings on either side. These are 179 feet long, 26 feet wide and 27 feet high, being two-story structures. A solarium is placed at the south end of each wing. The service building 105 feet long, 30 feet wide and 33 feet high accommodates the kitchen, laundry, servants' quarters and boilers and dynamos.

Connecting the administration and the service building is the dining room (41 x 33 feet), and one-story high. A stable at one side and a sewage disposal plant complete the buildings.

The water supply is taken from Wallum Pond, or lake, a body of water which has a comparatively unoccupied water-shed. The water is clear, the bottom being readily seen at a depth of fifteen feet. Chemical and bacteriological analyses of this water were made for the commission by the State Board of Health, samples being taken on October 23, 1903, and it was found to be of the finest quality. Originally the water was supplied by an automatic steam pump, located near the pond, the steam being supplied through a pipe laid from the

boiler-room of the sanatorium several hundred yards away. The pressure was maintained in a pressure tank located in the pump-house. During 1906 as an extra precaution against fire and as a saving of steam, a water tower was erected and a gas engine installed in the pump-house near the lake for pumping.

On November 18, 1903, a formal inspection of the buildings was made by the Governor and legislators, on invitation of the commission.

At the January session, 1903, \$75,000 was appropriated to secure the land and erect buildings.

At the January session, 1904, the commission asked for \$75,000 additional to complete the building and to cancel unpaid bills due to the contractors. \$21,000 only was granted, thus at the end of the year 1904, the Sanatorium was nearly completed. There yet remained to be supplied, furnishings, grading and a sewage disposal plant.

The building commission received an appropriation of \$48,000 at the 1905 session of the legislature to complete the buildings. This was done and the completed plant turned over to the Board of Trustees, who were appointed to control the institution. Another appropriation of \$25,000 was made available. This was in addition to any monies received from patients, and was to install fittings and furnishings and for administration.

The institution was finally opened on November 1, 1905. At the end of the year, 48 patients had been admitted and one discharged. Accommodations are provided for 110 patients.

During 1906, 288 patients have been treated, sixteen of them have been discharged as "apparently cured," 60 with the disease arrested and 47 have left without apparent betterment. The number of patients remaining at the end of the year was 104. The daily average occupancy was 88.3 patients; the weekly cost per capita for operation of the institution was \$10.30; and the average daily cost for food per capita was \$0.43+.

The entire cost of the sanatorium to date has been as follows:—To the joint special committee of the assembly and the building commission for investigation and acquiring of site prior to 1903, \$9,000.

To the building commission:—1903, \$75,000; 1904, \$21,000; 1905, \$48,000. Total, \$144,000.

To the Board of Trustees:—For fittings, furnishings and operation of institution in 1905, \$25,000; in 1906, for operating institution, \$50,000; and for water-tower, gas engine and sprinkler system in laundry and kitchen, \$5,000. Total, \$80,000.

Total of all appropriations to date, \$233,000.

The Board of Trustees, under whom the State Sanatorium is being operated, is constituted as follows:—J. Fred Gibson, Providence; Henry E. Nugent, Johnston; J. Truman Burdick, Newport; Rowland G. Hazard, Peacedale; and Dr. William H. Peters, M. D., Providence. The trustees have selected Dr. Harry Lee Barnes, M. D. as Superintendent.

#### PINE RIDGE CAMP.

The Pine Ridge Camp has been continued throughout this year. This camp was opened in June, 1903, in the town of Foster, on the Danielson Trolley Railway Line, and was dismantled in November of that year on account of the impracticability of maintaining the camp in tents through the winter weather, but was re-opened in the spring of 1904.

Small huts were erected to accommodate patients in all seasons. These small houses were of simple design and so constructed as to obtain sufficient space for lodging and with construction at a minimum cost. The cost of erection was estimated at \$150 apiece. They were 10 x 12 feet in dimensions and were made of double thickness of pine boards, with a lining of heavy paper. This would accommodate two persons, the cots occupying the length of the two sides of the houses. A small stove was installed for use during the time of rising and retiring. Over each cot a window running the length of the side of the hut was tilted inward from the top. This permitted

a free current of air from one side of the shack to the other, without blowing directly upon the cots. A broad shelter tilting upwards on the outside, protected the window frames from beating storms. These windows were kept open day and night.

A full sized window and door were inserted in the front and a corresponding window in the rear. A narrow platform surrounded the shack outside, permitting the patients to sit comfortably out of doors in the day time.

The shacks were to be commended for their simplicity and economy of construction.

An idea utilized in other camps in the United States was the use of street cars discarded by the railway company. These were easily transported to the camp, and provided a shelter with sufficient light and air, abundance of ventilation for at least one patient, which was in contrast with the effort of the railway company to ventilate the same car containing forty passengers.

It was estimated that the cost of operation would be five dollars for a week per patient.

It was proposed that soon as the State Sanatorium was ready to secure patients that the camp might be relieved of at least the incipient cases.

While subscriptions were received from time to time to meet the incurring expenses, they did not prove sufficient to meet the continued operation of the camp and a request was made of the State legislature at the January session of 1904, for an appropriation of \$2,000 to assist in continuing the work of the camp, which however was not granted.

#### HILLSGROVE SANATORIUM.

St. Joseph's Hospital, conducted under the Roman Catholic management, is located in the city of Providence.

It was intended previously for the treatment and care of all forms of disease except those of a contagious or infectious nature, and while not having accommodation for the communicable diseases, often found within its wards cases of pulmonary tuberculosis, some-



times in the advanced stage, and at times admitted to the hospital on account of some other affection.

It was not the desire nor the intent of the management to receive nor to retain such cases on account of the possibility of infection of other patients weakened from the effects of other diseases. For the same reason the only other general hospital in the State firmly refused refuge for cases of open tuberculosis.

The spirit of the management could not turn these cases back upon their homes if they had such a refuge, and could not throw them upon their own resources, so the best tentative arrangement possible was made by separating this class of cases in a separate ward, which of course could not accommodate all the applicants for relief.

At this time provision was being made by the State for a State Sanatorium, but it was intended that this institution should receive only the incipient or beginning cases. At its full accommodation it could receive only one hundred and ten of the three thousand cases of the disease which it was assumed existed in the entire State.

The St. Joseph's Hospital management therefore felt the need of relieving its general hospital of the possible dangers of infection and was impressed with a desire to do its share of public benefaction.

The Hospital therefore in 1904 secured a tract of land at Hillsgrove, near Apponaug, in the town of Warwick, upon which it erected a hospital to be utilized entirely for the reception of cases of consumption. The buildings include a long main building, with the necessary administration offices, and dining room with wings at each end for the patients. The main building is two stories in height, the main hall being 30 feet in length. Accommodation is provided for fifty patients. This branch, completed in 1905, was continued this year and permits of extending the most excellent and commendable work of caring for chronic as well as incipient cases of tuberculosis. While preference may be for incipient cases, yet no worthy case is refused admission to the extent of the available empty beds.

This enterprise serves as a demonstration of the need of some public institution which may care for the majority of the helpless advanced cases of consumption.

## INSPECTION OF WATER SUPPLIES.

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During the previous year inspections of several of the water-sheds of the State were made. The examination of the water-shed of the Bristol and Warren supply was incomplete, owing to heavy rains occurring at the time of first inspection. The work was continued this year and the following report was submitted by the inspector, Mr. W. J. Stanton, Inspector of the Water Department of the city of Pawtucket, who has been employed by this Board for the work.

### REPORT OF INSPECTION OF BRISTOL-WARREN WATERSHED.

AUGUST 28, 1906.

Average amount of water pumped daily, approximately 1,100,000 gallons, supplying a population of about 18,000. Samples of water\* were gathered at tap in engine room at pumping station (1) and at iron pipe outlet from upper reservoir (5).

The water has been usually high all summer, filling the reservoir, streams and low lands. For two weeks the water has been somewhat lower and has not been running over the spillway at lower reservoir. On the west side of the lower reservoir near the ice-house, some 400 feet from the intake, a cow (2) was standing in the water, no doubt a daily practice during the warm season.

The bypaths (3) at the bridges over the Kickemuit river, (6) show no unusual conditions. Directly south of the upper reservoir (4) and including the grass covered embankment forming the dam (8) is a pasture in which I counted 16 cows. Directly below the reservoir dam is a small swamp in which grow trees and bushes. Six or eight cows were knee deep in the reddish colored water in the swamp.

The stream entering the upper reservoir (9) from the north has been dry for about two weeks. Its watershed is mostly pasture and wood land. West (10) of the north end of upper reservoir, extending from the road about one third the distance, 300 or 400 feet, to the reservoirs, is a large yard in which are about 50

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\*For analyses, see page 123 of this report.

hogs. The land has a moderate slope to the reservoir, is surrounded by a heavy stone wall, and contains many large stones and burrowed holes. Under ordinary conditions I do not think surface water from this place reaches reservoir, but at times of heavy rains and melting snow when the ground is water-soaked or frozen, it may do so.

The west branch (11) as viewed from the road at bridge showed no unusual features.

From near the farm buildings (7) northwest of the lower reservoir bridge a small stream flows to the reservoir a part of the year. At this place a few horses, cows, and hogs are kept. Close inspection at certain times may show objectional features.

The ice-house (12) on the west bank of lower reservoir was not filled the season of 1905-06.

The standpipe located at the heights on the Warren-Bristol road is about 35 feet high and 25 feet in diameter, built of boiler plate iron. It contains about 3 feet in height of water. Viewed from top of the tank the water looked clear and nothing was floating on its surface.

(Signed)

W. J. STANTON,

*Inspector.*

(Numbers refer to corresponding numbers on a sketch submitted by the inspector.)

## DISAGREEABLE TASTE IN DRINKING WATER.\*

During the year complaints have been made, in different parts of the State, that the public water supply had a disagreeable odor and taste; or, since odor is one of the factors in the sense of taste, the odor was the objectionable feature.

These complaints have been especially numerous from the consumers of the Pawtuxet water supply in the city of Providence.

The odor in this case was described as being fishy, with an occasional fleeting odor of geranium. This was more particularly observed in certain sections of the city than in others.

Examinations of all the water supplies of the State are made once a month, and of the Pawtuxet supply twice a month. One of the tests of a supply is the manifestation of odor of any kind, both when the water is cold and when heated, the latter condition developing certain odors which would not be discernible when the water is cold.

The fishy odor remarked upon by the consumer was noted at the laboratory, and with a microscopical examination of the suspended matters in the water the cause was discovered in the presence of a certain growth of algæ, which in this supply proved to be *asterionella* of the group *diatomaceæ*.

Now the complaints which were made in the city came from consumers who were located on the so-called "East Side" of the city and on Smith's Hill, where the State House and laboratory are located, and in fact on all of the pipes fed by the high service supply. It must be understood that the water at Sockanosset is stored in a reservoir having an elevation which permits the water to flow by gravity into the Hope reservoir on the East Side. At the Hope reservoir is a pumping station which increases the pressure of the

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\*Reprint from "The Monthly Bulletin," of this Board, January-October, 1906, page 22

supply so that houses higher than the Hope reservoir may have a satisfactory pressure. From this engine a large pipe line also runs to and supplies Fruit Hill reservoir in the northern part of the city.

An examination of samples of water taken from the Hope reservoir, Fruit Hill reservoir, and Sockanosset reservoir disclosed the presence of the *asterionella* in the two former localities, but not in the latter, showing that the Hope reservoir became infected with the spores of the growth and that the water was pumped from Hope to the Fruit Hill reservoir, and that all pipes and taps on this section of delivery received more or less of the algæ growth.

That this organism, or in fact any abnormal condition, should arise in water which has been filtered is a matter which appears strange to the consumer until it is explained that this growth may find its way into the reservoir after the water is delivered there. It matters not whether it is straight polluted Pawtuxet, or clear, white, filtered, purified Pawtuxet. If the process of filtration had been mechanical, involving the use of alum in the purification, the obstructionists to alum purification would probably ascribe the presence of algæ to the use of alum; for when mechanical filtration was advocated it was predicted that almost all evils would occur if alum was used.

Whether the water is filtered by the open bed sand filtration, or by mechanical means, matters not. Water if stored may be infected at any time by the algæ growth.

A field which has for years been sown with grass and has yielded nothing but grass may at any time be invaded by the seeds of the daisy or carrot weed and the whole field become a posy bed. So with the reservoirs. If the dry spores of the algæ are wafted by a strong wind or carried by birds or insects to any body of water, there they may grow and multiply and produce mischief.

The life growth of these organisms is somewhat indefinite as to time. Although large quantities of them break down and are attacked by organisms of a low class of animal life, yet new ones grow in large numbers; and as they come together in masses and float to the surface of the pond or reservoir they may be blown onto the banks



of the reservoir and form an extended layer or scum. This was recognized in our childhood days as "frog-spew," or "frog-scum," it being assumed that the frog in his continuous gurgling had produced a gaseous mass which, being green, must have come from the frog because he was green, much as it was assumed in olden times to be the proper thing to give saffron tea in an attack of measles or jaundice because the tea had a brownish yellow or a yellow tinge and that was the color of the eruption accompanying the disease, hence, *similia, similibus*, etc., a decoction having a similar color would affect the disease beneficially.

With advances in the growth of these organisms certain oils are formed, as in many fragrant plants. Bubbles with decomposition form in the mass of green, they burst, and the gas generated is liberated in sufficient volumes that the surrounding atmosphere becomes extremely disagreeable, and with a strong breeze these gases may be wafted a long distance, producing a nuisance to those exposed to it; and this product of the algæ frequently becomes so obnoxious as to demand attention, and the health officer is called upon to abate the nuisance.

Removal of the masses from the surface of the pond or reservoir does not afford relief, since the whole pond is impregnated with the organism and the spores left by the dead structure reproduce the same species in increased numbers. These spores may remain over in a pond through winter, or may be wafted to the reservoir during a dry spell in spring or summer.

Something is required that will destroy the actual life or vitality of these organisms and their spores. The usual germicides used in destroying bacterial growth are expensive, and are poisonous if introduced into a drinking-water in sufficient strength to destroy those of the organisms which have a high vitality.

To overcome the advance in growth of these organisms it requires something which is cheap, so that it may be used in large quantities and at the same time may not be destructive to the natural life of the



pond treated. The fish which are present in the pond or reservoir must not be affected by the treatment of the waters of the pond.

This requires a complicated study of the organisms which are present and the amount of germicide or destructive element or chemical which will destroy them. This is found to vary greatly, some organisms being more resistant than others.

Thus far it has been found practicable to purify reservoirs or ponds which are affected by the use of copper sulphate, but not many cases are recorded where the authorities deemed it safe to treat a drinking-water in this way.

## WHAT A WATER ANALYSIS IS.\*

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The question of the sanitary condition of a water supply, whether public or private, is one the importance of which can not be overestimated. It becomes the duty of the water analyst to decide as to the safety or danger attending the use of a supply, basing his judgment upon as extended a knowledge as it is possible for him to obtain of the location of the river, lake, reservoir, well, or spring, and the conditions which exist on the watershed of the same, and upon the results which he obtains in the laboratory after submitting the sample of water to a series of chemical and bacteriological tests. If he sends to the layman a report of the water analysis, simply giving the figures obtained from his test, he is very apt to receive a reply asking for the result of the analysis in "plain English," and it is with the idea of making a water analysis a little less mysterious that this article is written.

A sanitary water analysis is usually made up of the following tests: an inspection of the sample for its appearance as to turbidity, sediment, and color as read upon a definite standard; the odor of the water, cold and after heating nearly to boiling; a determination of the total solids; the matter volatile from this residue when heated to dull redness, and by subtracting this from the total solids, the fixed solids, so-called; a determination of the soap-hardness as measured by shaking a definite volume of the water with a standard soap solution; and a determination of the alkalinity of the water by titration with standard acid.

These determinations are in a measure general, or pertain principally to the mineral contents of the water. The tests which are about to be named are of more value in studying the sanitary con-

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\*Reprint from "The Monthly Bulletin," of this Board, January-October, 1906, page 25.

dition of the water, and are as follows: Oxygen consumed, a chlorine determination, free and albuminoid ammonia, and nitrites and nitrates. The oxygen consumed figure is a measure of the organic contents of the water and, as the name implies, represents the oxygen consuming power of the water. The chlorine determination is of value as an index of pollution, inasmuch as a water from any given locality should naturally contain a certain amount of chlorine for that district. Chlorine is one constituent of common salt and this figure increases with proximity to the sea, and for certain sections of the country has been pretty definitely determined, so that the chlorine result as obtained from any analysis can be compared with a rather definite figure, and if much higher than this figure tends to arouse suspicion in the mind of the analyst. The other four determinations mentioned are for substances containing nitrogen, and are in a way a history of any sewage contamination which may have reached the water at any time.

The albuminoid ammonia is a measure (representing from forty to fifty per cent.) of the organic nitrogen, and in sewage is very high. If sewage is finding its way through the ground for a greater or less distance, a natural oxidization of this nitrogen takes place and free ammonia is formed as one of the first products of this change. If there is distance enough between the polluting source and the pond, or well, or supply, whatever it may be, this change may go further and the nitrogen pass into the form of nitrites; or even further to nitrates, which is the final state of oxidization; and any polluting matter which has passed through sufficient soil to become completely changed to nitrates has then become a harmless mineral constituent instead of the dangerous organic matter, accompanied by large numbers of bacteria as it originally started. Thus it will be seen that the most satisfactory condition for a water which may unfortunately be subjected to possible pollution is a high nitrate figure and low albuminoid ammonia, free ammonia, and nitrites. In fact, the presence of any considerable amount of either of the last two shows that the water is not completely purified by natural filtration in the case of a well

water, or that pollution in entering a pond, reservoir, or stream. The albuminoid figure must be judged from the nature of the water. A well water should contain little or no albuminoid ammonia, and the figure for surface waters, such as ponds, reservoirs, and streams, should not be exceedingly high, but would in nearly every case be higher than that for a well, due to nitrogenous matters taken up in the passage of the water over the ground. The same is true of the oxygen consumed determination, it being high in the case of surface waters for the same reason.

In connection with the above tests, which are known as the chemical analysis, the total number of bacteria in each cubic centimeter of the water is determined by growing the bacteria at a definite temperature in a gelatin media which has been specially prepared. This count is reported, showing the actual number of water bacteria which will develop under these definite conditions. The bacteriologist goes further than this in some cases, however, and makes special tests to isolate the typical sewage bacterium known as *B. Coli communis*. If this bacterium is found in a water it can be pretty definitely classed as dangerous, and in the majority of cases the chemical analysis will show pretty definite indications of pollution. The water, however, may be in an unsatisfactory condition, showing incomplete purification of polluting matters, and yet not show the presence of this sewage bacterium. This latter condition is apt to be true in the case of a well where the soil between the polluting sources and the well is almost, but not quite able to take care of the pollution satisfactorily. Below are given typical analyses of waters which may be classed as follows:

1. A pure ground water.
2. A polluted ground water.
3. A good water from a safe surface water supply.
4. An unsatisfactory polluted surface water.

Parts per 100,000.				
Date of—	No. 1.	No. 2.	No. 3.	No. 4.
Collection.....	April 16, 1906.	June 1, 1906.	May 8, 1906.	June 5, 1906.
Examination.....	April 17, 1906.	June 1, 1906.	May 9, 1906.	June 6, 1906.
Appearance—				
Turbidity.....	none.	none.	none.	very slight.
Sediment.....	none.	very slight.	very slight.	considerable.
Color.....	.00	.02	.61	1.85
Odor—				
Cold.....	none.	very faintly un-pleasant.	distinctly vege-table.	faintly vege-table.
Hot.....	none.	very faintly un-pleasant.	distinctly vege-table.	decidedly vege-table.
Residue on Evaporation—				
Total.....	4.95	40.0	4.00	6.90
Loss on ignition.....	1.15	15.3	1.75	3.60
Fixed.....	3.80	24.7	2.25	3.30
Ammonia—				
Free.....	.0004	.0220	.0008	.0034
Albuminoid—				
Total.....	.0006	.0040	.0134	.0388
In Solution.....	....	.0036	.0122	.0324
In Suspension.....	....	.0004	.0012	.0064
Chlorine.....	.53	3.98	.35	.50
Nitrogen as—				
Nitrates.....	.060	1.63	.011	.006
Nitrites.....	.0000	.0140	.0000	.0001
Oxygen Consumed....	.01	.07	.63	1.71
Hardness.....	1.70	15.4	0.65	1.35
Alkalinity.....	1.40	6.10	0.55	0.50
Bacteria per c. c.....	1	804	9	2,653

Some waters, principally those which have been stored in reservoirs, occasionally have very disagreeable tastes and odors develop in them. By examining such a water under the microscope the analyst finds that in a great many cases this is due to a growth of small microscopic plants or animals known as diatoms, algæ, protozoa, etc., and these are classified into smaller groups and each different form has a name of its own. These growths are not known to be injurious to health, but are frequently the cause of complaints heard about public water supplies.

It is hoped that the above remarks, although perhaps a little technical for the layman, may serve to show with some clearness the lines upon which a water analyst works in passing upon a sample of water from a sanitary standpoint.

G. H. P.

## AN EXPERIENCE WITH CLOGGED SEWAGE BEDS AT PAWTUCKET.\*

### THE USE OF COPPER SULPHATE TO DESTROY MICRO-ORGANISMS IN SEWAGE PURIFICATION.

The regular monthly or bi-monthly examination of the work of the sewage purification plants of the State is carried on by the board in conjunction with the local oversight of the plants by the city engineers or superintendents in charge of the same, the board also giving its laboratory facilities and the knowledge and experience of its chemist to the study of any plant which may get into difficulties. The city of Pawtucket, through its Board of Public Works, has been especially hearty in its co-operation with the State Board of Health, and the studies of the sewage problem carried on by the city engineer, Mr. George A. Carpenter, and this board, have been productive of interesting results.

The history of sewage purification in Pawtucket has been similar to that in other places, in the same latitude, using sand filtration. Those beds which have shown high nitrification during the warmer months of the summer have shown a decreased nitrification as cold weather approached, and at times, while giving an effluent of fairly good appearance, still have shown practically no nitrification, but as soon as warmer weather came on, returned to their normal condition. The winter of 1905-06 was a mild one, and the Pawtucket beds maintained nitrification longer than in some winters; but instead of all the beds recovering from the effects of the winter, they continued to give poor nitrification, whereas in other years they had been restored to good condition, and were in a condition where they would stand with sewage on them not merely for hours, but for days before

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\*Reprint from "The Monthly Bulletin," of this Board, November-December, 1906, page 49.



one could see the surface of the sand. Attention being called to this condition by City Engineer Carpenter, and the analyses indicating, as the above stated, a poor nitrification, special work on the plant was begun, co-operating with the city engineer, to rectify the trouble if possible.

Examinations of sand in the beds for albuminoid ammonia showed a large accumulation of nitrogenous matter in the upper layers, the top eight inches of most of the beds showing quite high figures; and a tabulation of the strength of the sewage of other winters and summers showed that the winter of 1905-06 had given a very much stronger sewage than any previous period. It was assumed that this strong sewage, through the winter just passed, had clogged the beds in addition to the stored nitrogen of previous years, and that a removal of six to eight inches of sand and resurfacing with new sand might correct the difficulties. Accordingly, the sand in two beds was removed to a depth of six inches and new sand put on, the under drainage system having been previously cleaned. At first, after nitrification had been established, conditions were quite a little better; but very soon these beds again showed a marked decrease in nitrification, finally reaching the point where little or none was obtained, and the surface of the beds soon presented the now familiar appearance of a large greenish black deposit spread over the entire surface of the bed. This deposit had the appearance and consistency of a rubber mat, and was very tough, and impervious to water. After collecting on the beds it curled up when dry, in great quantities, as shown by the accompanying illustration, Plate I. This necessitated very frequent scrapings in order to have the beds perform any work, for if it was allowed to remain there too long the whole bed became clogged and sewage stood on it to the depth of several inches, and it became necessary to put men onto the beds with spades to break through the deposit and open up the top of the sand and allow the sewage to work away through the beds. This condition is illustrated in Plate II. Both of these photographs are reproduced through the courtesy of Mr. Carpenter..



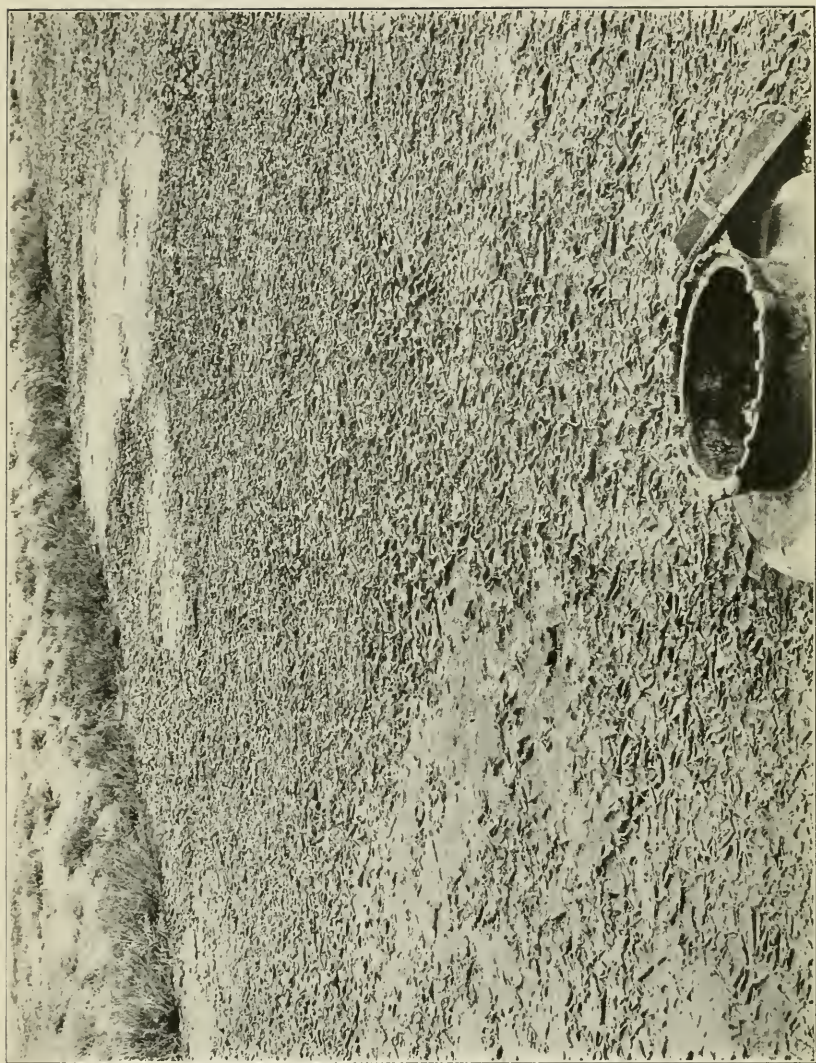


PLATE I.—Growth curling up on the filter beds.



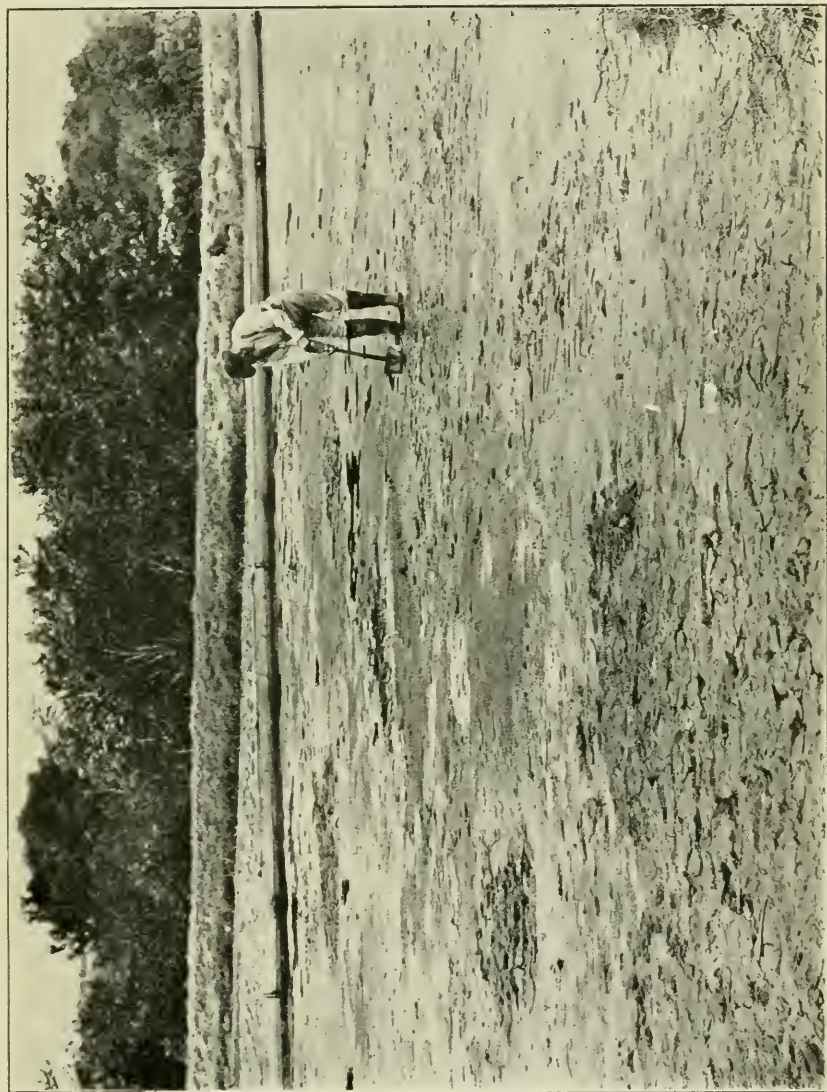


PLATE II.—Breaking through the growth to allow the sewage to drain away.



An examination of this black deposit showed it to be made up to a great extent of *Oscillaria*. It was now thought that the trouble might be due to this growth on the beds, and that if it were possible to kill this the conditions would improve. On August 6, 1906, two beds were treated with two pounds of copper sulphate to each bed (the area of each bed being about .18 of an acre). The copper salt was trailed through the sewage, which was held on the beds to a depth of approximately six inches, the outlet to the underdrains being closed. After this copper was all dissolved the beds were allowed to stand for about forty-eight hours. The sewage was then drained off through the bed and the operation repeated. At first it seemed as if the trouble had been somewhat relieved by this treatment, but very shortly the growth returned.

Realizing from albuminoid ammonia tests that the beds contained too much stored nitrogen for them to do the best work under any conditions, several other beds were scraped to a depth of eight inches and resurfaced with new sand, but the experience with these beds was similar to that with the two which had been used for experimental purposes.

During all this time, as has been the custom for a number of years, the sewage had been applied to the beds at the rate of 100,000 gallons per acre, and the dosing being on alternate days was at the rate of from 50,000 to 60,000 gallons per acre per day. Thinking that this rate of dosing was probably too much for the beds, considering the quantity and strength of the sewage, the dose was dropped to 25,000 gallons per acre per day on two of the beds which had been resurfaced, and a very satisfactory nitrification was established, but the growth of *Oscillaria* which had been present in the plant finally appeared on the beds again, although not to the same extent as previously.

A careful and thorough investigation of all the conditions at the plant, especially of the distributing system, showed the presence of a very large growth of *Oscillaria*, together with some *Ulothrix* and *Cladophora* in the main distributor to the beds and the manholes in the same. This fact indicated that possibly the *Oscillaria* and other



growths had been killed in the copper sulphate experiment, but the spores of the organisms had been carried from the distributor, through the conveyers, onto the beds, there to flourish and clog the surface again. No signs of these growths were found in the screen tanks, or settling tanks, so the problem now seemed to be to clean up the main distributor. Accordingly, at the suggestion of the chemist of the board, Mr. Gilbert H. Pratt, who had also suggested the earlier copper sulphate experiment, this main distributor and the manholes were thoroughly scoured with steel brushes and then scrubbed with a solution of one part copper sulphate in 5,000 parts water. After this cleaning, all sewage flowing onto the beds was dosed, just as it left the settling tank, with copper sulphate, one part in 50,000, for a period of fifteen days. At the end of this time the method of operation of the plant was as before. The use of the copper solution was discontinued and the rate of dosing on some beds now being 50,000 gallons per acre per day, and on other beds 25,000 gallons per acre per day.

The nitrification of the plant was not injured in the slightest degree by the copper sulphate treatment; on the contrary, the general condition in that respect, at the end of fifteen days, was better than at the beginning, and after the plant had returned to its normal condition as to treatment, nitrification kept increasing and continues high up to the present time, January, 1907, when, judging from the experience of former years, one would not be surprised to have a low nitrification. The beds are now giving good results and effluents of good appearance, and the *Oscillaria* and other growths have ceased. Since the dosing of the sewage flow with copper sulphate there has been no delay in drying out the beds and the deposits on the beds have been normal in quantity and in appearance. The only sign which has been seen of these growths has been in a location which furnishes a strong argument for the results which have been accomplished by the use of the copper sulphate. Some of the beds were furrowed when this dosing took place. This has been the custom in other years as fall approached. This was the case with the worst bed, from the

standpoint of microscopic growths. A very marked green growth made its appearance on the top of the furrows on this bed above the "high water line" and remained for some little time, but finally disappeared and did not spread to any great extent into the bed. The same phenomenon was noticed on one or two of the other beds which had not been furrowed, the growth showing on the banks at the edge of the grass, just above where the dosed sewage reached.

As explaining why these small growths which appeared did not spread into the bed more, it is suggested by the chemist that the accumulated copper in the top layers of the bed may have exerted a strong enough toxic effect to have prevented this. This suggestion is in line with some experimental work carried on under the direction of the Massachusetts State Board of Health on the storage of copper in the sand of water filters, which showed that there was a very decided accumulation of copper in the top few inches of the sand of filters which had been treated with water containing copper sulphate.

To sum up the situation, drawing conclusions from points brought out in these remarks and from analyses which have not been presented here, one may conclude as follows: The sewage of Pawtucket, which, when screened and settled for a period of about four hours, contains normally in parts per 100,000 about one part of albuminoid ammonia, free ammonia of about ten parts, suspended solids of about twenty parts, and about ten parts oxygen consumed by the five-minute boiling test, had increased in strength and quantity during the winter of 1905-06 to such an extent that the limited filtering area and heavy dosing clogged the beds with stored nitrogen and fatty matters so that when the spores of the micro-organisms were carried onto the beds from the main distributor the conditions were most favorable for the production of a network which these growths soon formed. Had the beds been able to dry out quickly, the growth would probably not have secured such a hold on the beds as it did. Thus the strength of the sewage and the dose were the primary cause of the trouble. The micro-organisms may be regarded as the secondary and most crippling cause, for it was these that finally put the beds almost

out of commission. Resurfacing the beds and watching the rate of dosing no doubt helped matters, but the main relief was obtained from cleaning the distributor with copper sulphate and the subsequent dosing of the sewage with the same. This is emphasized by the fact that the beds that were not resurfaced improved greatly after the copper sulphate treatment, with no material change in rate. A return of the bad conditions may be looked for, however, at any future time if extreme care is not exercised in the rate of dosing of the beds and changes made in the rates at which sewage is applied to the different beds when their action calls for lowering the same.

At Pawtucket this careful oversight has been provided for by the assignment of a special assistant engineer to keep in close touch with the plant and all conditions existing there as to quantity of sewage, strength of the same, condition of the beds, and to give instructions as to the rates at which sewage should be applied to the different beds. Since this assignment there have been several instances where a change in rate at the proper time gave improvement in the drying out of the bed and in the quality of the effluent. This should be borne in mind in connection with other plants, for a plant which would purify the sewage of a community several years ago can not necessarily do it satisfactorily to-day with the same supervision, as the increased quantity and strength of the sewage on account of the natural increase in population may overtax the capacity of the plant as at Pawtucket.

This plant is now giving good results under unfavorable conditions as to season, while before the copper treatment, under the most favorable condition of summer and early fall, the results were so poor that the plant was nearly out of commission at times. It is felt that these experiences may serve as a precedent for similar treatment with copper sulphate at some other place, or again at Pawtucket, if micro-organisms make their appearance, provided, of course, that this treatment be made with properly calculated doses and under expert supervision.

## MILK LEGISLATION.

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During the year, the laws of the State have been so modified as to permit its citizens to have served to them a supply of milk which shall be pure, clean, and free from the filthy accumulations of the stables and barnyards as well as free from any adulterating ingredients, whether that be water, coloring matter, or preservatives.

Under the conditions of previous legislation a fine might be imposed upon anyone who sold adulterated milk, but as the fine was so much less than the profits from sales of diluted milk, and the periods of escaping detection long enough to make up for losses by fines, the dishonest dealer continued to sell watered and preserved milk.

The need of a change in the law was repeatedly urged by the aggressive and persistent efforts of the inspector of milk of the city of Providence. Being daily brought into contact with the trickery of dishonest milk dealers, and having repeatedly caused the arrest and fine of many of them, he saw his work nullified by a repetition of illegal methods of conducting the business.

By his records he was able to show to the legislative committees that much milk sold to the people of Providence was unfit for human consumption. In the course of his examination of milk sold in this city he discovered large quantities of formaldehyde in a sample of milk taken from a supply, a portion of which had been fed to two infants who forthwith died. The infants being twins, public sentiment was aroused and the milk dealer was held on a criminal charge. If the children or an adult had merely been made sick by using the milk and formaldehyde had been found, the dealer might have escaped with a fine of twenty dollars and have been allowed to try his experiment again. It frequently requires a death or two to obtain justice in this State.

Under the old law, dirt, cow manure, and filth, which rapidly soured and destroyed the quality of the milk, were not considered an adulteration. They were natural ingredients, inasmuch as many dealers had always sold a certain quantity of sediment with the milk, and, the consumers always having been so liberally supplied, would have considered it a phenomenon if the milk failed to sour within a few hours after delivery.

The change in the law reads as follows:

#### PUBLIC LAWS, CHAPTER 1342.

AN ACT PROVIDING FOR THE LICENSING OF MILK DEALERS IN CITIES, AND IN AMENDMENT OF AND IN ADDITION TO CHAPTER 147 OF THE GENERAL LAWS, ENTITLED "OF MILK."

*It is enacted by the General Assembly as follows:*

SECTION 1. No person, firm, or corporation, as principal, servant, or agent, shall sell, exchange, or deliver, or have in his or its possession, care, custody, or control, with intent to sell, exchange, or deliver, in any manner whatsoever, milk, cream, or skimmed milk, within any city, unless such person, firm, or corporation shall have first obtained and have in force a license therefor from the board of aldermen of such city.

SEC. 2. The board of aldermen of such city may grant licenses to any person, firm, or corporation making written application therefor at the office of the inspector of milk of such city on printed form or forms provided for that purpose by such inspector of milk. Such application shall state the name, residence, and location of the business place or places of the applicant, the number and the description of each and every wagon, carriage, or other vehicle used by the applicant in the milk, cream, or skimmed milk business, and the names and residences of all persons from whom such applicant purchases any milk, cream, or skimmed milk. Any licensee hereunder shall at any time, on request of said inspector, give said inspector such information. All applications shall be signed by the applicant, and in case of corporations so applying the application shall be made by the treasurer or other duly authorized officer thereof, and the names of the officers of any corporation so applying, or to which such license is granted, shall be furnished in writing by such corporation to such inspector at any time on his request. The inspector of milk shall promptly present to said board of aldermen each such application, with his recommendations thereon in writing. All licenses issued



shall expire on the first Monday in February next following the date of such license.

SEC. 3. The inspector of milk shall keep a record of all such licenses issued, including the name, residence, and place of business of each and every person to whom such license is issued and the date of issue and the date of license, and so much of Section 5 of Chapter 147 of the General Laws, entitled "Of milk," as requires milk dealers to register their names and places of business in the inspector's book shall not apply to such licenses. No person, firm, or corporation holding such license shall have power to transfer, sell, or assign such license. Such license shall not be required for a person acting as the servant or agent of a person, firm, or corporation having a license, but they shall record the names and residences of such servants and agents in the office of the inspector of milk. Any person, firm, or corporation licensed under the provisions of this act shall immediately cause to be and remain posted such license upon some conspicuous part of the room, place, or office in which the business is carried on.

SEC. 4. The board of aldermen of such city shall have the power at any time in their discretion, upon the complaint of the inspector of milk or of any other person, to revoke or suspend any such license for any violation of the provisions of said Chapter 147 of the General Laws or of any act in amendment thereof or in addition thereto, or for any other good and sufficient cause, or when the interest of the public health demands it: *Provided, however,* that no such license shall be revoked or suspended until after said board of aldermen shall give the licensee five days' previous notice and an opportunity to be heard in person or by counsel.

SEC. 5. Any person violating any provision of Section 1 of this act shall, upon conviction, be fined for the first offence not less than fifteen dollars and not exceeding one hundred dollars, and for any subsequent offence not less than one hundred dollars or imprisonment not to exceed ninety days, or both such fine and imprisonment.

SEC. 6. Any town may at any time accept the foregoing provisions of this act and any acts in amendment thereof or in addition thereto by vote of the town council thereof and by filing in the office of the secretary of state a copy of such vote of acceptance duly certified by the town clerk thereof, whereupon this act and all acts at any time in amendment thereof or in amendment thereto, shall apply to such town for the purpose of granting and issuing such licenses, and at the expiration of thirty days from such filing shall wholly apply to such town for all purposes therein, and the town council thereof shall have all the powers conferred thereby upon the board of aldermen of any such city.

SEC. 7. Section 1 of said Chapter 147 of the General Laws is hereby amended so as to read as follows:



"Section 1. All milk, cream, and skimmed milk shall be sold only by standard wine measure, and by or in measures, cans, jars, bottles, or other vessels or receptacles which shall, prior to being used in such sale, be sealed by the sealer of weights and measures of the town where the person so using the same shall usually reside in this state, or of the town where such milk shall be sold for use; and every person selling any of the same contrary to this section, or delivering any of the same sold contrary hereto, shall be fined for the first offence not less than fifty dollars and not exceeding one hundred dollars, and for any subsequent offence not less than one hundred dollars or imprisonment not to exceed ninety days, or both such fine and imprisonment. Any purchaser of milk, cream, or skimmed milk having reason to believe that any measure, can, jar, bottle, or other vessel or receptacle in which milk, cream, or skimmed milk is sold and delivered to him is not of sufficient size or capacity to contain, by standard wine measure, the amount thereof purchased may apply to the sealer of weights and measures of the town in which such milk, cream, or skimmed milk is delivered to him, which sealer shall, upon the receipt of a fee of twenty-five cents therefor, test the capacity of the same and issue to such purchaser his certificate stating the capacity thereof; and if such capacity according to such certificate shall be less than the amount purchased, such purchaser may make complaint and deliver such certificate to any officer of such town authorized to make complaints for the violation of said chapter, who thereupon shall duly make complaint against and prosecute the person or persons selling or delivering the same for violation of this section."

SEC. 8. This act shall take effect upon its passage for the purpose of granting and issuing such licenses, and for all other purposes shall take effect from and after the first day of July, A. D. 1906.

A true copy,

Attest:

CHARLES P. BENNETT,

*Secretary of State.*

In this new law it will be noticed that a city or town may control the sale of milk by license. The unscrupulous dealer in milk can not sell without obtaining a license, and his license, if he has any, can be revoked if he sells milk which does not conform to the standard of purity and cleanliness which may be adopted by the city or town. This standard may be made sufficiently high to meet all practical requirements, and which may be shown are within the bounds of possibility. Such standards should include conditions which are

found to be present in the supply of milk delivered by dairymen who have always had a sense of decency and who practiced cleanliness and honesty and who have delivered a high grade of milk continuously and shown it to be possible to continue to live, and that there is a large number of this class shown by the records of the milk inspector. It is the shiftless farmer of dirty habits about the farm that this law is intended to reach, and it will in time cause a clean supply of milk to be delivered to the consumers in those cities and towns which avail themselves of the provisions of this act.

This control of the producer stimulated the representatives of the dairyman throughout the State to look for some protection against imposition of the consumer upon the producer by returning to him milk utensils which might have been used as a receptacle for refuse of any kind, including molasses and kerosene. The presumably intelligent and cleanly housewife or domestic at times also returned to the dealer a bottle or can which contained sufficient decomposed milk to require repeated sterilization of the utensil to prevent souring of new milk placed in the can or bottle.

This fair request was considered by the legislature and assistance and protection given to the producer by the passage of the following act:—

#### PUBLIC LAWS, CHAPTER 1318.

#### AN ACT FOR THE PREVENTION OF MISUSE OF VESSELS USED IN THE TRANSPORTATION, HANDLING, OR SALE OF MILK.

*It is enacted by the General Assembly as follows:*

SECTION 1. Whoever by himself or by his servant or agent, or as the servant or agent of any other person, firm, or corporation having custody of a can, jar, bottle, measure, or other vessel used as a container for milk destined for sale, places or causes or permits to be placed therein any offal, swill, kerosene, vegetable matter, or any article other than milk, skimmed milk, buttermilk, cream, or water or other agent used for cleansing said can, jar, bottle, measure, or other vessel, shall be punished by a fine of ten dollars for each vessel so misused.

SEC. 2. Whoever by himself or by his servant or agent, or as the servant or agent of any other person, firm, or corporation, sends, ships, returns or delivers, or causes or permits to be sent, shipped, returned, or delivered, to any producer of milk any can, jar, bottle, measure or other vessel used as a container for milk containing any offal, swill, kerosene, vegetable matter, rotten or putrid milk, or any other offensive material, shall be punished by a fine of ten dollars for each said vessel so misused.

SEC. 3. Whoever by himself or by his servant or agent, or as the servant or agent of any other person, firm, or corporation, sends, ships, returns, or delivers, or causes or permits to be sent, shipped, returned, or delivered, to any producer, dealer in, or consumer of milk any can, jar, bottle, measure, or other vessel used as a container for milk without first thoroughly cleaning and cleansing, by the use of boiling water, steam, or other proper agent, such can, jar, bottle, measure, or other vessel used as a container for milk, shall be punished by a fine of ten dollars for each said vessel so misused.

SEC. 4. This act shall take effect thirty days after its passage.

A true copy,

Attest:

CHARLES P. BENNETT,

*Secretary of State.*

## CLEAN MILK FOR BABIES.\*

During the past summer Dr. Charles V. Chapin, Superintendent of Health of the City of Providence, conceived the idea of attempting to supply a certain amount of pure milk for babies who were living in the city of Providence and who from their social and financial position would probably be dependent upon store milk for their entire supply of food.

As store milk is obtained from the cheapest sources and from dairymen who make no attempt at cleanliness in handling this important food, and as the storekeepers store the milk in filthy boxes or in the open store without covers on the cans, without ice for cooling and dispense it with filthy utensils, the milk naturally is not the purest that is used. It has gathered to itself all the dirt that was obtainable from the time it left the udder of the cow to the time it is sold. While an ordinarily clean milk would not contain over fifty thousand to one hundred thousand bacteria in each twenty drops of milk, store milk contains upwards of two and three millions.

The Strauss supply in New York City and the Goeler enterprise in Rochester obtained their milk from the average source and pasteurized it before being delivered to the babies.

It was thought preferable by Dr. Chapin and his committee to obtain a milk which would not need purifying.

That this was obtainable at a fair price was shown by the results of the examination of the milk as found at the milking barn, at the dairy through the different processes of straining, mixing, bottling, and at the delivery stations.

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\*Reprinted from "The Monthly Bulletin," of this Board, November-December, 1906, page 37.

The State Board kept a certain amount of bacteriological test control on the milk to be delivered. At one time the bacterial counts were found to be up in the millions. Investigation revealed the fact that the milk had been brought from the farm to the stations without ice, depending upon the chilling it had received by being in a refrigerator over night with the cooling of the morning's milk supply obtained from passing the milk over the corrugated cooling chamber. This simply removes the animal heat.

As soon as the bottled milk was packed in ice all the way to the station the counts fell to the average to be obtained by a first class milk, namely 20,000.

It was extremely gratifying to the committee to find that the purpose of the milk was so quickly understood and appreciated, and that subscriptions were given liberally and with but little solicitation. Even the much berated ice company gave freely and liberally of its store, and as ice is the keynote upon which success rests, and as large quantities are necessary, it was fully appreciated by the committee.

The enthusiasm of those having charge of the affair and the strong support given by the public give encouragement that the same supply may be undertaken during the coming summer, in a more amplified manner, by the establishment and maintenance of more stations in districts in which large numbers of infants are always to be found.

#### REPORT OF THE COMMITTEE ON CLEAN MILK FOR BABIES.\*

On May 25th an impromptu meeting was held to consider a plan for furnishing clean milk for the infants of the poor during the coming hot weather. The following were present:

Drs. Gardner T. Swarts, H. G. Partridge, M. B. Milan, P. E. Fisher, M. S. Budlong, C. P. Mahoney, J. M. Peters, Charles V. Chapin, R. P. Boucher, and Mr. Walter O. Scott, the Inspector of Milk.

As a result of this conference it was decided to attempt the distribution of milk somewhat on the line followed by Dr. G. W. Goeler,

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\*Submitted to the Providence Medical Association, November 5, 1906.



of Rochester. At a meeting of this association held on June 4th, the following committee was appointed to carry this plan into execution:

Dr. Charles V. Chapin, Chairman, Dr. Gardner T. Swarts, Secretary, Dr. H. G. Partridge, Treasurer, Dr. Edmund D. Chesebro, Dr. M. B. Milan, Dr. Halsey De Wolf, Dr. Ellen A. Stone, Dr. P. E. Fisher, Dr. D. Frank Gray, and there was later added to the committee Dr. M. S. Budlong, Dr. M. P. Mahoney, Dr. J. M. Peters, and Dr. William H. Buffum. Dr. Eugene P. King rendered the committee active service in various ways.

The work of starting the undertaking was very great; money had to be collected, locations secured for the distributing stations, nurses and helpers engaged, and bottles, carriers, scales, refrigerators, etc., purchased, ice secured and literature prepared for distribution, and finally, the most important of all, was the selection of a satisfactory milk. It was finally determined to purchase the milk of Rodolph Berry, in Seekonk. Mr. Berry took great interest in the undertaking, and Mr. Sears, who had charge of the practical work of the dairy, gave the committee great assistance.

The milk was neither pasteurized nor sterilized, but was promptly cooled as soon as milked. It was modified to a slight extent at the farm to render it suitable for very young infants. At first it was not iced during transportation to the city, but later this was found to be necessary. At the stations it was kept on ice until delivered to the customers. Dr. Swarts made frequent bacteriological examinations of the milk, and after it was iced in transit it showed a bacterial count ranging from 50,000 to 200,000 c. c., at the stations. Two sizes of bottles were used, five and eight ounce; four gross of the former, and twenty-two gross of the latter were purchased at a cost of \$123.62. Tin pails purchased of the Oakdale Mfg. Co., at a cost of eight cents each, were furnished the purchasers of milk for carrying it to their homes. Five distributing stations were secured, and a nurse was employed to have charge at each station, except for the one on East street, which was in charge of Dr. Catherine N. Munro. Another nurse was in charge of the preparation of the milk at the farm, and



she had two assistants. The station nurses received \$10.00 per week, and the one at the farm \$18.00 and board, and her assistants \$12.00 and \$7.00. Each distributing station was under the direct supervision of a member of the committee and Drs. Swarts and Buffum supervised the preparation of the milk at the farm. This last involved a very great deal of labor, often at inconveniently early hours. A circular similar to the following was distributed to the public, and explains the mode of distribution:

#### CLEAN MILK FOR BABIES.

Arrangements have been made by which clean milk for infants will be furnished during the coming hot weather. Stations have been established at five different places. A trained nurse will be present at each station to advise about the care of the babies.

The milk will be furnished in nursing bottles, just the right quantity for a single nursing in each bottle. The price will be five cents a day, for babies up to about six months; eight cents between six and ten months, and ten cents over ten months. A deposit of three cents must be made for each bottle. This deposit has to be made only once.

It is hoped that any bottle baby which is not at present getting perfectly pure milk, and any baby which is not doing well, will be brought to one of these stations to try this milk.

Stations—East Street School, Delaine Street Nursery, St. Vincent Infant Asylum, Lying-in Hospital, Voting Booth corner Hospital and Eddy streets.

The stations will open Monday, July 2.

Hours: Week days, from 8 in the morning to 1 in the afternoon. Sundays, from 8 to 11 in the forenoon.

Another circular was sent to physicians informing them of the project and giving the formulæ for the modifications furnished. The circular was as follows:

#### HEALTH DEPARTMENT.

##### CIRCULAR TO PHYSICIANS. No. 6.

##### CLEAN MILK FOR INFANTS.

DEAR DOCTOR:—As you perhaps know, a fund has been started for furnishing clean milk for infants. Stations will be established at five points in the city, and

the milk is to be distributed on the terms specified in the accompanying circular. Several of these circulars are enclosed for your use. The milk furnished at these stations is secured from the Berry farm, in Seekonk, and is produced under conditions which render it of very low bacterial content. It is put up in sterile nursing bottles on the farm, and handled in the best possible manner. It is prepared according to the following:

FORMULÆ.	AGE;	MILK.	WATER.	LIME WATER.	MILK SUGAR.
1	Birth to 1 month	$\frac{1}{2}$ oz.	$1\frac{1}{2}$ oz.	$\frac{3}{4}$ teaspoon	1 teaspoon
2	1 month to 3 months	1 oz.	2 oz.	1 "	$1\frac{1}{2}$ "
3	3 months to 6 months	2 oz.	$2\frac{3}{4}$ oz.	2 "	2 "
4	6 months to 10 months	3 oz.	3 oz.	3 "	2 "
5	10 months to 24 months	8 oz.			

If any infants under your care are not supplied with milk of satisfactory quality it is suggested that you try the station milk.

You can also materially aid the undertaking by explaining to any philanthropic persons likely to be interested, the importance and value of this charitable undertaking.

Contributions may be sent to the Treasurer of the Committee.

DR. H. G. PARTRIDGE,

June, 1906.

242 BROAD STREET.

It is very difficult to show statistically the amount of good accomplished. The physicians who had charge of this work and were enabled to personally observe the babies are entirely satisfied with the results obtained, and are willing to give their time in order to carry it on another year. This is perhaps the best proof that is was successful. Many of the babies that were brought to the stations were sick at the time, and quite a number of them critically sick, and some even dying. Of course some of these did die, but many of them showed marked improvement as soon as they were put on station milk, and ultimately recovered. Cards were furnished the nurses at the stations on which to keep records of the children, but unfortunately these records were not kept at all the stations as fully and as carefully as was hoped, so that the data derived from them is far from complete. Of the 143 infants who took the milk for more than two weeks, forty-one were sick when brought to the stations, and of

these two died; 102 were well, but afterwards two became sick and died. There were about 116 who received the milk for a shorter time than two weeks. The reason for giving it up usually assigned was that it was impossible to come to the station regularly. Besides the above, milk was furnished to eight adults, who were suffering from some sickness, such a typhoid fever, or tuberculosis. Many of the customers of the stations came long distances, often at great inconvenience, thus testifying to their appreciation of the milk. Many of the mothers also expressed verbally in the strongest terms their thankfulness that they were enabled to procure milk suitable for their babies. There is no doubt that the life of many a little one was saved by this undertaking. As shown below, the net cost of this good work was \$948.54.

The following statement from the treasurer gives the receipts and expenditures:

## EXPENDITURES.

Milk.....	\$346 83
Milk sugar, 414 lbs.....	67 99
Bottles*.....	123 62
Rubber stoppers, 4,644.....	21 20
Pails, 258.....	19 80
Refrigerators and scales.....	58 15
Ice.....	3 91
Bottle filler.....	9 50
Salaries.....	613 90
Labor at farm.....	45 15
Teaming.....	58 58
Printing, cleaning and other supplies.....	39 80
	<hr/>
	\$1,408 43

## RECEIPTS.

Contributions.....	\$955 00
Sales, breakage.....	454 69
Interest.....	1 63

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\*576 5-oz. bottles, and 3,247 8-oz bottles.

Rebate on bill. ....	1 15
	<hr/>
	\$1,412 47
Balance on hand. ....	\$4 04

In conclusion, the committee desires to express its appreciation of the interest shown by the public. A large part of the subscriptions were unsolicited, and were doubtless due to the wide publicity given to the undertaking by the newspapers, whose hearty co-operation we had. There were in all fifty-one contributors. Special mention should be made of the following firms, who made generous contributions of money or goods: The Outlet Company, the O'Gorman Company, the Providence Ice Company, who furnished all the ice for the stations, the Anthony-Cowell Company, the Union Hardware Company, and S. J. Briggs & Company.

CHARLES V. CHAPIN,

*Chairman.*

## RABIES.\*

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### PREVALENCE OF HYDROPHOBIA (RABIES).

During the past year an unusual number of dogs, and a few cats, have shown signs of being affected with strange actions, including the biting of other animals, strangers, and their owners. These conditions led the public, veterinarians, and health authorities to suspect that rabies or hydrophobia or "madness" had been introduced into the State and was spreading from animal to animal.

In an unusually suspicious case the brain of the animal was sent by the health department of the city of Providence to a skilled bacteriologist in the city health board laboratory of Boston, who found certain cells or tissue forms in the brain of the animal known as Negri bodies, so-called from the name of the discoverer. These bodies are always found in the brain tissues of animals who have passed through all the symptoms of rabies, including paralysis and death, and are not found elsewhere or in other diseases. Up to the present time they are accepted by the authorities as being diagnostic or a characteristic of hydrophobia.

Of the numerous cases of madness in dogs and cats none had been allowed to live long enough to develop the later symptoms of the disease, paralysis and death; hence we were dependent upon the microscopical examination of the brain tissues to determine the presence of the disease in a given case.

Of humans who have been bitten by dogs two have developed the disease, several being sent to the Pasteur Institute in New York for treatment as soon as it had been decided that the dog probably or possibly had rabies at the time of biting the person.

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\*Reprinted from "The Monthly Bulletin," of this Board, January-October, 1906, page 1.

Recently several dogs in different parts of the State have been noticed to act strangely, and, while not becoming violent, finally had paralysis and died, one of the characteristic symptoms being a paralysis of the muscles about the jaws and mouth and the tongue becoming swollen. This has been termed by veterinarians variously as "black tongue," "black diphtheria" and "dumb rabies." The brain of one dog dying with these symptoms was submitted for examination, but the result was negative, no Negri bodies having been found.

It became incumbent upon the health authorities to prevent, if possible, the further spread of the disease, and the department of the city of Providence immediately took measures for that end,\* although no other cities or towns made any effort to protect their own townspeople or the neighboring towns.

Many cases of bitten dogs and children were repeatedly reported in towns about Providence, yet the alarm has not been sufficient for those towns to take any action.

The means of prevention were the seizure and death of any or all dogs, found on the public streets, who had no collar or appeared to be without an owner. Strange and wandering dogs are more frequently reported as having been the cause of wounds in home animals, who later have developed the signs of rabies.

All dogs having owners were not to be allowed upon the streets or highways unless the mouth of the dog was confined in a suitable muzzle, to prevent its biting, or was being led by means of a leash to prevent animals reaching each other and by which they might be restrained from running with other dogs which might have the disease.

The result of an ordinance passed by the city council of Providence appeared to be observed in about half the dog population. The dog officer became active, and many useless or friendless dogs were asphyxiated; but many a mongrel, collarless and without muzzle, and many a dog of "high degree" without leash or muzzle, but

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\*See extensive report on rabies in the report of the Superintendent of Health of the City of Providence, this report, page 62.



decorated with a collar studded with numerous brass buttons, might be seen in all parts of the city.

Evidently the order for protection of man and beast was not popular. What is not convenient to the people does not stimulate law officials to activity.

Either hydrophobia is present in the State or absent. If present it is not desirable that the disease should spread to dogs and cats, and incidentally men and children should be protected.

The muzzling or confining of dogs may prevent their biting others or it may not, according to the efficiency of the quarantine and the stability of the muzzle. If it is necessary to restrain one dog of the many from biting, it is unquestionably necessary that all should be so restrained. If not necessary, it is cruel and unjust to the dogs, as well as to the feelings of his master, that he bear the discomfort of a muzzle.

Owing to the unwillingness of the dog owners of the city to comply with the regulations, and inasmuch as neighboring towns and states made no such requirement, the ordinance was repealed after a month's trial.

The dogs which have created the most disturbance have been animals which are strangers to the locality, and have evidently from their appearance travelled some distance.

As the State of Rhode Island is but about twenty miles from border to border, it is evident that unless the neighboring states took precautions to check the spread of the infection, local laws would be of little value.

#### WHAT TO DO WHEN BITTEN BY A MAD DOG.

If a person is bitten by a strange or wandering dog or cat which has previously acted in a wild or unusual manner, the suspicion arises that the dog is "mad" or has rabies or hydrophobia.

Recently there has been a large number of dogs who have acted in this way, rushing wildly about, snapping at inanimate objects,

animals and men alike—in fact, anything which appears in the way or excites their attention.

If such an animal has viciously bitten dogs or man without having been annoyed into a state of anger, it is to be assumed probable that the dog has rabies and that he may have transmitted some of the virus into the wound or tear inflicted upon the injured person or animal.

In such a case the wound should be induced to bleed freely. This can be encouraged by rubbing the part from the body toward the extremities and by tying a circular band or ligature on the side of the wound nearest the body if it is the arm or leg which has been torn. A handkerchief would serve for this purpose. This will check the return surface venous blood which is carrying the poison into the circulation, and will permit the bleeding to continue on the distal or farther side of the wound.

As soon as possible the wound should be *scrubbed* out with soap and water or saturated with an antiseptic solution of bichlorid of mercury (corrosive sublimate) of the strength of one to five hundred; but no time should be wasted to secure this, but encourage the bleeding.

Excision of a portion of the edges of the wound or cauterization with a hot iron or with caustics is sometimes advocated by surgeons who are called to treat the case.

It is a question whether the searing or hardening of the tissues on the surface of the wound may not form a tough membrane which will prevent bleeding and the elimination of the virus remaining in the tissues at the surface.

As soon as the bleeding ceases the wound should be washed clean with water which has been boiled, avoiding the use of dirty rags or sponges. Treat as an ordinary cut. Do not apply plasters of any kind, or irritating solutions or ointments. Allow the wound to heal, cleansing it daily with the antiseptic solution prescribed by the surgeon in charge.

If one feels satisfied that the patient has actually been inoculated by the animal, as proven by examination of the brain of the animal

and the finding of the Negri bodies, the patient should at once receive the Pasteur treatment, which consists of the daily injection under the skin of solutions containing certain strengths of the actual virus of the disease. This virus is produced from the nerve tissues of an animal which has had the disease produced by inoculation of a lethal or fatal dose. If this nerve tissue is exposed in sterilized air the virus gradually loses its strength, and an injection of the weakest strength is used upon the patient on the first day. Each day a stronger solution of the poisonous tissues is used, and so on until, after twenty or thirty days, the patient has had the disease in an increasing virility. Under ordinary conditions the patient might show the symptoms of the disease within thirty to sixty days, according to the part of the body receiving the bite. Virus received in wounds of the face is carried to the brain more quickly than when received elsewhere.

This inoculation or artificial production of the disease places the tissues of the patient in a resistant condition against the strongest dose, and as the full effects have been gradually hastened before the virus of the rabid animal could take effect, he is immunized or protected against its poison and hence does not have the attack which would have come if he had not been treated, and which in all probability would have been fatal.

In case that the Negri bodies are not found present it should not be positively decided that the dog was not mad. They may be few in number or the tissues where the organisms multiply may have been broken up. The next test is to inoculate a rabbit with a certain amount of the brain or cord of the dog, and if the dog was mad the rabbit would succumb, after twelve to fourteen days, with the symptoms of rabies. It would theoretically be safe for a person to await the result of this test before submitting himself to the Pasteur treatment, for if the treatment is commenced even a few days before the end of the period of incubation, or the time when the person will begin to show symptoms of the disease, the treatment will be effective; and as the period of incubation is approximately forty days, the

fourteen or fifteen days' wait for the animal test does not preclude the possibility of saving the patient.

The patient being first attended to, the natural desire of the excited populace is to destroy the animal.

If the dog has strayed into an enclosure, or can with safety be driven into a place where he can be confined, he should be so held, and not killed. He may not have had the disease; his actions may have been the result of overfeeding, heat, indigestion, or other disease may be present. If he recovers, the mind of the patient is relieved, the expense of examination of the brain of the dog and of treatment of the patient is avoided. While confined he should be fed and not tormented. If he is suffering from hydrophobia he will die in a few days or hours with characteristic symptoms of contraction of the muscles about the head and neck, with intervals of weakness gradually changing to paralysis, usually commencing in the hind legs. He may have periods of rest between the attacks. He may froth at the mouth, but frothing at the mouth has little significance in itself as it accompanies many other disturbances in dogs and cats.

The fact that he trembles, whines, or has a convulsive attack when near water does not indicate that he has any fear of water, but is thirsty while in his feverish condition. The thought of water may bring on an attempt to swallow, and the set of muscles used in that action being thus stimulated while in an irritable state produces a spasm of the jaws. The slamming of a door, or a sudden sound or movement, may start a new spasm.

If it is manifestly dangerous or impracticable to confine the animal he should be killed, but in the killing care must be used, if possible, not to injure the brain, especially at the back of the head. If possible, shoot him through the body, avoiding the skull. If the only weapon handy is a club, do not strike hard enough to mash the head to a pulp. An average blow will stun the animal. If the dog is in the resting stage he can be chloroformed by a veterinarian or one skilled, but this procedure is not recommended to citizens in general.

The dog being dead, an examination of the brain should follow if any person has been bitten; but if he has only attacked other animals there is no need of incurring the expense of an examination, which requires two or three days time and tedious skilled manipulations.

That the examination shall be successful, the brain should not be allowed to decompose. The head should be cut off an inch or two below the junction of the head with the neck, placed in a tin pail or tight box and packed in broken ice, a little salt thrown on the ice and the pail or box covered to prevent the melting of the ice. The package should be shipped at once to the laboratory where the examination is to be made, or preferably, carried by special messenger, since the express may place the package by the side of a steam pipe or radiator during transportation.

A report will be made from the laboratory in two or three days.

The cost of examination of the brain is twenty-five dollars.

The cost of the Pasteur treatment at the Pasteur Institute in New York is one hundred dollars, which includes the board of the patient, but not that of the attendant of the patient. The patient does not lodge at the hospital, but attends at a certain hour in the day for the injection or treatment and boards in a near by residence. The time of absence from home is about twenty-five days. The operation is not painful, and the patient is allowed to travel about the city during the day.

The virus may be obtained from New York City Board of Health and administered by the family physician at home. The only objection to this method is the possibility of the virus being destroyed by heat during shipment; the liability of a break in the regularity of the dose owing to miscarriage by the express company, and the succeeding dose being too great an advance in strength from the previous dose administered.



## CONTROL OF THE SALE OF NARCOTICS.

At the last January session of the General Assembly an act was passed regulating the sale of certain narcotics. The need of such a law was emphasized by the experience of certain physicians who had patients who had become addicted to the dangerous use of morphia and cocaine. These habitués were able to obtain any amount of these drugs at certain drug stores in the State, simply upon requisition and the ability to pay for the same. The exposures shown by "Colliers" and "The Ladies' Home Journal" have manifested the widespread use of narcotics in proprietary medicines as well as the dangers of the use of the same. It is not expected that such a law will absolutely control the abuse of narcotics, for the users of these materials will manage to procure them outside of the State if they find it impossible to obtain them here, but it will serve as a check upon the many unscrupulous druggists, some of whom are well known.

It would perhaps be difficult, offhand, to enumerate the particular compounds which contain more than the allowed quantity of narcotics, but it is hoped that as the result of co-operation with the Board of Pharmacy and from data derived from States where analyses of these concoctions are made, it will be possible to present them to the trade and the public specifically. As numerous inquiries have been made to this department, by druggists, as to the intent of the law and its scope, and as the passage of the law may not be known to all the druggists in the State, a copy of the same is appended herewith, and copies of the same on stiff board have been sent to all pharmacists of the State.



## PUBLIC LAWS, CHAPTER 1365.

## AN ACT TO REGULATE THE SALE OF CERTAIN NARCOTICS.

*It is enacted by the General Assembly as follows:*

SECTION 1. No person, firm, or corporation shall sell, furnish, or give away any cocaine, heroin, alpha or beta eucaine, opium, morphine, chloral hydrate, or any alkaloid, salt, or compound containing any of the foregoing substances, except upon the original written order or prescription of a practitioner of medicine, dentistry, or veterinary medicine, signed by the person giving the prescription or order. Such written order or prescription shall be permanently retained on file by the person, firm, or corporation who shall compound or dispense the articles ordered or prescribed, and such articles shall not be recompounded or redispensed if upon such prescription shall appear the words "Not to be repeated," signed by the prescriber. No copy or duplicate of such written order or prescription marked "Not to be repeated" shall be furnished or delivered to any person, and the original shall at all times be open to inspection by properly authorized officers of the law: *Provided, however,* that the above provisions shall not apply to preparations containing not more than six grains of opium, or not more than one-quarter grain of morphine, or not more than two grains of chloral hydrate, or not more than one-sixteenth grain of cocaine, in one fluid ounce, or, if a solid preparation, in one avoirdupois ounce; *Provided, also,* that the above provisions shall not apply to preparations containing opium and sold in good faith for diarrhoea and cholera, each bottle or package of which is accompanied by specific directions for use, and a caution against habitual use, nor to linaments or ointments when plainly labelled "For external use only;" *and, provided, further,* that the above provisions shall not apply to sales at wholesale by jobbers, wholesalers, and manufacturers to retail druggists, or to qualified physicians, surgeons, dentists, or veterinarians, or to each other, nor to sales at retail by retail druggists to regular practitioners of medicine, surgery, dentistry, or veterinary medicine, or to each other, nor to sales made to manufacturers of proprietary or pharmaceutical preparations for use in the manufacture of such preparations, nor to sales to hospitals, colleges, scientific or public institutions.

SEC. 2. It shall be unlawful for any practitioner of medicine, dentistry, or veterinary medicine to furnish to, or prescribe for the use of, any habitual user of the same any cocaine, heroin, alpha or beta eucaine, opium, morphine, chloral hydrate, or any alkaloid, salt, or compound of any of the foregoing substances, or any preparation containing any of the foregoing substances. And it shall also be unlawful for any practitioner of dentistry to prescribe any of the foregoing substances for any person not under his treatment in the regular practice of his

profession, or for any practitioner of veterinary medicine to prescribe any of the foregoing substances for the use of any human being.

SEC. 3. Any person who shall knowingly violate any of the provisions of this act shall be deemed guilty of a misdemeanor and upon conviction for the first offense shall be fined not less than fifty dollars nor more than one hundred dollars, and upon conviction for a second or subsequent offense shall be fined not less than one hundred dollars nor more than two hundred dollars for each offense, and shall be imprisoned in the county jail for not more than six months.

SEC. 4. Any registered pharmacist or assistant registered pharmacist who shall have been twice convicted of violation of the provisions of Section 1 of this act shall be deemed to have forfeited his right to registration, and the state board of pharmacy shall thereupon discontinue his registration and shall not renew the certificate of registration of such convicted person within two years thereafter.

SEC. 5. Any physician who shall prescribe any of the drugs mentioned in Sections 1 and 2 of this act, except in cases where the use thereof is required by the then existing physical or mental condition of the person applying for such prescription, shall upon conviction therefor be deemed guilty of malpractice and unprofessional conduct, and it shall be the duty of the state board of health thereupon to revoke and annul the certificate of such physician to practice medicine in this state.

SEC. 6. This act shall take effect on and after the first day of July, A. D. 1906.

A true copy,

Attest:

CHARLES P. BENNETT,

*Secretary of State.*



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FIFTY-THIRD REPORT

RELATING TO THE

REGISTRY AND RETURN

OF

Births, Marriages, and Deaths,

AND OF DIVORCE,

IN THE

STATE OF RHODE ISLAND,

FOR THE

*YEAR ENDING DECEMBER 31, 1905.*

PREPARED BY

GARDNER T. SWARTS, M. D.

STATE REGISTRAR OF VITAL STATISTICS; SECRETARY OF THE STATE BOARD OF HEALTH;  
COMMISSIONER OF PUBLIC HEALTH.

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PROVIDENCE:

E. L. FREEMAN COMPANY, STATE PRINTERS.

1907.



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---

GARDNER T SWARTS *Secretary.*

## State of Rhode Island and Providence Plantations.

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PROVIDENCE, R. I., January 16, 1907.

*To the Honorable General Assembly:*

The fifty-third Annual Report upon the Registration of Births, Marriages, and Deaths in Rhode Island, including judicial procedure in relation to divorce, and the report of cases of death by violence which were viewed by the medical examiners during the year 1905, with compendary tables of the results of registration in the previous years, is herewith respectfully submitted.

The plan of the preceding years, in regard to the general arrangement of the tables, summaries, and comments, has been followed in this report. Since 1900, Table IX of the yearly report of causes of deaths has been re-adjusted to conform to the nomenclature of the so-called Bertillon system.

While this classification does not reach a perfection which may be desired by all registrars, it has been adopted in order that it may be in conformity with the registration reports of all other principal cities and States having a system of registration. It also places the report in conformation with the registration reports of Canada and other foreign countries, which have agreed to adopt this system.

In the special tables the object has been to present the important facts of many years of registration, as well as of single years, in such manner as to make them readily apparent and relieve the reader of the statistics of much of the labor of personal examination of each of the general tables of the preceding reports for the purpose of ascertaining the relation the various facts bear to each other.

Respectfully,

GARDNER T. SWARTS,

*State Registrar.*



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REPORT UPON THE REGISTRATION  
OF  
BIRTHS, MARRIAGES, AND DEATHS  
IN  
RHODE ISLAND,  
FOR  
THE YEAR ENDING DECEMBER 31, 1905  
AND  
FOR VARIOUS YEARS FROM 1853 TO 1905,  
INCLUSIVE.

TABLE I.

*General Summary of Births and Marriages in the State of Rhode Island during the year 1905.*

		BIRTHS.							MARRIAGES.				
		SEX.		PARENTAGE.				NATIVITY.					
TOWNS													
AND DIVISIONS OF THE	Whole Number.	Males.	Females.	Native.	Foreign.	Native Father. Foreign Mother.	Foreign Father. Native Mother.	Whole Number.	Native.	Foreign.	Native Groom. Foreign Bride.	Foreign Groom. Native Bride.	
STATE.													
Barrington.....	38	19	19	8	25	4	1	8	8	.....	.....	.....	
Bristol.....	142	62	80	36	74	18	14	54	24	17	4	9	
Warren.....	196	101	95	34	120	20	22	64	26	19	8	11	
BRISTOL COUNTY....	376	182	194	78	219	42	37	126	58	36	12	20	
Coventry.....	193	90	103	75	90	14	14	23	19	2	1	1	
East Greenwich.....	52	22	30	22	23	2	5	32	22	5	2	3	
West Greenwich.....	5	2	3	4	1	.....	.....	1	1	.....	.....	.....	
Warwick.....	655	315	340	179	324	50	102	208	92	68	22	26	
KENT COUNTY.....	905	429	476	280	438	66	121	264	134	75	25	30	
Jamestown.....	22	16	6	17	2	2	1	7	6	.....	1	.....	
Little Compton.....	34	18	16	20	8	1	5	6	5	1	.....	.....	
Middletown.....	42	17	25	12	26	2	2	6	4	.....	.....	2	
NEWPORT CITY.....	512	243	269	226	179	53	54	199	118	39	21	21	
New Shoreham.....	12	4	8	7	2	1	2	16	13	.....	2	1	
Portsmouth.....	61	35	26	19	36	3	3	12	8	.....	2	2	
Tiverton.....	89	42	47	29	48	9	3	18	13	1	.....	4	
NEWPORT COUNTY....	772	375	397	330	301	71	70	264	167	41	26	30	
Burrillville.....	168	78	90	60	57	25	26	49	19	6	12	12	
CENTRAL FALLS.....	646	302	344	116	365	64	101	145	38	55	26	26	
Cranston.....	290	146	144	100	152	18	20	98	36	42	8	12	
Cumberland.....	286	145	141	69	141	46	30	69	27	23	13	6	
East Providence.....	309	157	152	148	78	26	57	82	61	11	3	7	
Foster.....	17	9	8	14	.....	2	1	16	15	.....	1	.....	
Glocester.....	32	15	17	20	9	2	1	17	15	.....	1	.....	
Johnston.....	143	70	73	23	99	9	12	18	10	2	2	4	
Lincoln.....	250	140	110	26	177	29	18	72	17	28	13	14	
North Providence....	83	48	35	23	41	7	12	6	2	4	.....	.....	
North Smithfield....	66	32	34	29	18	12	7	21	11	5	3	2	
PAWTUCKET.....	1,110	596	514	336	523	131	120	482	212	124	61	85	
PROVIDENCE CITY....	5,210	2,627	2,583	1,530	2,791	458	431	2,441	1,048	847	268	281	
Scituate.....	56	23	33	41	6	7	2	21	14	.....	4	3	
Smithfield.....	64	33	31	29	20	6	9	17	11	2	1	3	
WOONSOCKET.....	1,058	571	487	188	630	115	125	321	84	145	49	43	
PROVIDENCE COUNTY.	9,788	4,992	4,796	2,752	5,107	957	972	3,878	1,620	1,294	465	499	
Charlestown.....	13	6	7	12	.....	.....	1	6	2	2	2	.....	
Exeter.....	4	4	.....	4	.....	.....	.....	6	6	.....	.....	.....	
Hopkinton.....	38	21	17	29	1	3	5	18	15	.....	.....	3	
Narragansett.....	28	16	12	18	5	.....	5	5	4	.....	.....	1	
North Kingstown....	73	46	27	55	7	5	6	30	23	2	2	3	
South Kingstown....	79	42	37	67	3	6	3	49	34	5	3	7	
Richmond.....	10	6	4	6	3	1	.....	9	7	.....	1	1	
Westerly.....	219	115	104	83	106	16	14	105	68	20	8	9	
WASHINGTON COUNTY	464	256	208	274	125	31	34	228	159	29	16	24	

TABLE I.—CONTINUED.

*General Summary of Deaths in the State of Rhode Island during the year 1905.*

DEATHS.										
Whole Number.	SEX.		NATIVITY.		AGGREGATE AGE IN YEARS.		AVERAGE AGE IN YEARS.		Aggregate Age.	Average Age.
	Males.	Females.	Native.	Foreign.	Males.	Females.	Males.	Females.		
16	11	5	14	2	476	387	43.27	77.40	863	53.94
180	100	80	125	55	4,571	3,072	45.71	38.40	7,643	42.46
100	49	51	70	30	1,235	2,041	25.20	40.02	3,276	32.76
296	160	136	209	87	6,282	5,500	39.26	40.44	11,782	39.80
106	44	62	83	23	1,801	2,094	40.93	33.77	3,895	36.75
48	20	28	39	9	1,066	1,393	53.30	49.75	2,459	51.23
13	8	5	12	1	481	276	60.13	55.20	757	58.23
400	200	200	292	108	6,510	7,094	32.55	35.47	13,604	34.01
567	272	295	426	141	9,858	10,857	36.24	36.80	20,715	36.53
15	4	11	11	4	106	646	26.50	58.73	752	50.13
22	13	9	22	.....	767	492	59.00	54.67	1,259	57.23
19	11	8	15	4	401	202	36.45	25.25	603	31.74
394	206	188	299	95	7,964	8,210	38.66	43.67	16,174	41.05
21	13	8	20	1	633	378	48.69	47.25	1,011	48.14
42	23	19	39	3	768	542	33.39	28.53	1,310	31.19
55	31	24	45	10	1,237	538	39.90	22.42	1,775	32.27
568	301	267	451	117	11,876	11,008	39.46	41.24	22,884	40.29
108	56	52	76	32	1,641	2,009	29.30	38.63	3,650	33.80
364	184	180	252	112	4,001	5,029	21.74	27.94	9,030	24.81
192	97	95	149	43	3,459	3,716	35.66	39.12	7,175	37.37
154	76	78	92	62	2,289	3,055	30.12	39.17	5,344	34.70
187	104	83	146	41	3,704	3,884	35.61	46.80	7,588	40.58
17	8	9	17	.....	457	560	57.13	62.22	1,017	59.82
25	12	13	23	2	649	741	54.08	57.00	1,390	55.60
59	24	35	45	14	679	1,204	28.29	34.40	1,883	31.92
115	49	66	75	40	1,227	2,568	25.04	39.51	3,795	33.00
45	21	24	34	11	821	896	39.10	37.33	1,717	38.16
44	27	17	33	11	1,179	735	43.67	43.24	1,914	43.50
728	350	378	449	279	11,553	14,259	33.01	37.72	25,812	35.46
3,474	1,744	1,730	2,385	1,089	60,528	64,258	34.71	37.14	124,786	35.92
69	31	38	62	7	1,732	1,700	55.87	44.74	3,432	49.74
38	22	16	31	7	988	677	44.91	42.31	1,665	43.82
491	256	235	323	168	6,308	6,945	24.64	29.55	13,253	26.89
6,110	3,061	3,049	4,192	1,918	101,215	112,236	33.07	36.81	213,451	34.93
14	2	12	12	2	108	706	54.00	58.83	814	58.14
8	4	4	8	.....	82	292	20.50	73.00	374	46.75
35	16	19	33	2	1,010	1,308	65.00	68.84	2,318	67.94
25	12	13	21	4	507	537	42.25	41.31	1,044	41.76
83	41	42	74	9	2,005	2,000	48.90	47.62	4,005	48.25
105	52	53	93	12	2,853	2,898	54.87	54.68	5,751	54.77
30	14	16	27	3	662	569	47.29	35.56	1,231	41.03
107	55	52	83	24	2,442	2,127	44.40	40.90	4,569	42.70
407	196	211	351	56	9,699	10,437	49.48	49.46	20,136	49.47

TABLE I.—Continued.—RECAPITULATION.

*General Summary of Births and Marriages in the State of Rhode Island,  
by Counties, during the year 1905.*

COUNTIES.	BIRTHS.							MARRIAGES.				
	Whole Number..	SEX.		PARENTAGE.				Whole Number.	NATIVITY.			
		Males.	Females.	Native.	Foreign.	Native Father. Foreign Mother.	Foreign Father. Native Mother.		Native.	Foreign.	Native Groom. Foreign Bride.	Foreign Groom. Native Bride.
BRISTOL.....	376	182	194	78	219	42	37	126	58	36	12	20
KENT.....	905	429	476	280	438	66	121	264	134	75	25	30
NEWPORT.....	772	375	397	330	301	71	70	264	167	41	26	30
PROVIDENCE.....	9,788	4,992	4,796	2,752	5,107	957	972	3,878	1,620	1,294	465	499
WASHINGTON.....	464	256	208	274	125	31	34	228	159	29	16	24
STATE INSTITUTIONS..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
WHOLE STATE.....	12,305	6,234	6,071	3,714	6,190	1,167	1,234	4,760	2,138	1,475	544	603

TABLE I.—Concluded.—RECAPITULATION.

*General Summary of Deaths in the State of Rhode Island, by Counties,  
during the year 1905.*

## DEATHS.

Whole Number.	SEX.		NATIVITY.		AGGREGATE AGE IN YEARS.		AVERAGE AGE IN YEARS.		Aggregate Age.	Average Age.
	Males.	Females.	Native.	Foreign.	Males.	Females.	Males.	Females.		
296	160	136	209	87	6,282	5,500	39.26	40.44	11,782	39.80
567	272	295	426	141	9,858	10,857	36.24	36.80	20,715	36.53
568	301	267	451	117	11,876	11,008	39.46	41.24	22,884	40.29
6,110	3,061	3,049	4,192	1,918	101,215	112,236	33.07	36.81	213,451	34.93
407	196	211	351	56	9,699	10,437	49.48	49.46	20,136	49.47
264	183	81	137	127	9,268	3,705	50.64	45.74	12,973	49.14
8,212	4,173	4,039	5,766	2,446	148,198	153,743	35.51	38.06	301,941	36.77



TABLE II.—BIRTHS, 1905.

*Arranged by Months, Sexes, and Divisions of the State.*

MONTHS.	SEX.	Whole State.	DIVISIONS OF THE STATE.									
			Bristol County.	Kent County.	Newport County Towns.	Newport City.	Providence County Towns.	Central Falls.	Pawtucket.	Providence City.	Woonsocket.	Washington County.
January....	Males.....	520	9	38	10	22	65	19	54	233	47	23
	Females..	514	14	41	7	25	78	32	43	211	39	24
	Total.....	1,034	23	79	17	47	143	51	97	444	86	47
February....	Males.....	509	13	43	12	20	85	25	32	216	51	12
	Females..	460	15	39	4	16	74	32	45	191	33	11
	Total.....	969	28	82	16	36	159	57	77	407	84	23
March.....	Males.....	553	9	44	9	24	99	25	49	227	47	20
	Females..	500	15	41	9	19	72	26	36	224	43	15
	Total.....	1,053	24	85	18	43	171	51	85	451	90	35
April.....	Males.....	522	16	30	13	22	70	27	49	221	49	25
	Females..	519	16	37	12	21	87	27	34	217	49	19
	Total.....	1,041	32	67	25	43	157	54	83	438	98	44
May.....	Males.....	501	20	46	11	24	72	21	49	199	33	26
	Females..	485	18	35	11	26	74	18	36	207	42	18
	Total.....	986	38	81	22	50	146	39	85	406	75	44
June.....	Males.....	545	21	37	9	17	90	20	50	227	44	30
	Females..	498	12	44	11	18	58	24	47	220	47	17
	Total.....	1,043	33	81	20	35	148	44	97	447	91	47
July.....	Males.....	564	20	38	12	26	88	24	43	236	52	25
	Females..	492	16	33	9	24	74	29	47	204	37	19
	Total.....	1,056	36	71	21	50	162	53	90	440	89	44

TABLE II.—BIRTHS, 1905.—Concluded.

*Arranged by Months, Sexes, and Divisions of the State.*

MONTHS.	SEX.	Whole State.	DIVISIONS OF THE STATE.									
			Bristol County.	Kent County.	Newport County Towns.	Newport City.	Providence County Towns.	Central Falls.	Pawtucket.	Providence City.	Woonsocket.	Washington County.
August.....	Males.....	531	16	24	18	16	68	36	60	222	51	20
	Females..	539	18	51	17	23	63	33	50	233	39	12
	Total.....	1,070	34	75	35	39	131	69	110	455	90	32
September..	Males.....	477	12	36	12	16	67	22	42	192	56	22
	Females..	517	17	37	9	21	76	31	41	226	38	21
	Total.....	994	29	73	21	37	143	53	83	418	94	43
October....	Males.....	534	16	44	12	22	65	29	60	216	51	19
	Females..	503	22	42	17	24	70	35	44	191	43	15
	Total.....	1,037	38	86	29	46	135	64	104	407	94	34
November..	Males.....	484	17	26	8	17	62	19	56	212	51	16
	Females..	529	18	43	9	25	68	31	47	228	40	20
	Total.....	1,013	35	69	17	42	130	50	103	440	91	36
December...	Males.....	494	13	23	6	17	65	35	52	226	39	18
	Females..	515	13	33	13	27	74	26	44	231	37	17
	Total.....	1,009	26	56	19	44	139	61	96	457	76	35
Whole State	Males.....	6,234	182	429	132	243	896	302	596	2,627	571	256
	Females..	6,071	194	476	128	269	868	344	514	2,583	487	208
	Total. ...	12,305	376	905	260	512	1,764	646	1,110	5,210	1,058	464

TABLE III.—PLURALITY BIRTHS.—1905

*Arranged by Months, Sexes, and Divisions of the State; and showing the Nativity of the Parents.*

MONTHS.	Number of Cases.	SEX.	Number of Children.	DIVISIONS OF THE STATE.							NATIVITY OF THE PARENTS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
				Bristol County.	Kent County.	Newport County.*	Newport City.	Providence County.†	Providence City.	Washington County.	American.	Armenian.	Austrian.	English.	Finnish.	French.	French Canadian.	German.	Italian.	Portuguese.	Russian.	Scotch.	Swedish.	Syrian.	American and British-American.	American and French-Canadian.	American and Irish.	British-American and American.	Danish and Swedish.	English and British-American.	English and French-Canadian.	English and Scotch.	French-Canadian and American.	German and English.	Irish and American.	Italian and American.	Russian and German.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
January.....	15	Males.....	13	1	.....	.....	.....	4	10	.....	6	1	.....	.....	1	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

\* Not including Newport city.

† Not including Providence city.

TABLE IV.—MARRIAGES, 1905.

*Arranged by Months and Divisions of the State.*

MONTHS.	Whole State, 1905.	DIVISIONS OF THE STATE.										Whole State, 1904.
		Bristol County.	Kent County.	Newport County Towns.	Newport City.	Providence County Towns.	Central Falls.	Pawtucket.	Providence City.	Woonsocket.	Washington County.	
January.....	350	12	21	4	9	37	17	29	170	31	20	330
February.....	310	6	13	3	8	41	9	25	166	25	14	311
March.....	244	13	16	2	7	20	4	26	131	14	11	138
First Quarter.....	904	31	50	9	24	98	30	80	467	70	45	779
April.....	263	5	16	1	17	37	3	22	134	14	14	394
May.....	366	10	29	1	5	30	18	32	193	32	16	307
June.....	623	17	31	14	29	64	22	82	303	29	32	557
Second Quarter....	1,252	32	76	16	51	131	43	136	630	75	62	1,258
July.....	383	10	17	4	16	35	8	38	218	22	15	256
August.....	369	10	22	6	14	36	15	39	191	28	8	325
September.....	471	12	26	9	26	50	13	44	229	39	23	389
Third Quarter.....	1,223	32	65	19	56	121	36	121	638	89	46	970
October.....	493	16	18	8	25	55	16	51	235	42	27	468
November.....	583	8	45	8	27	48	18	65	302	38	24	447
December.....	305	7	10	5	16	33	2	29	172	7	24	252
Fourth Quarter....	1,381	31	73	21	68	136	36	145	709	87	75	1,167
Whole Year.....	4,760	126	264	65	199	486	145	482	2,444	321	228	4,174

TABLE V.—DEATHS, 1905.

*Arranged by Months, Sexes, and Divisions of the State.*

MONTHS.	SEX.	Whole State.	DIVISIONS OF THE STATE.										
			Bristol County.	Kent County.	Newport County Towns.	Newport City.	Providence County Towns.	Central Falls.	Pawtucket.	Providence City.	Woonsocket.	Washington County.	State Institutions.
January.....	Males....	388	9	26	9	8	54	17	36	176	23	14	16
	Females..	400	14	23	8	12	46	20	46	193	13	17	8
	Total....	788	23	49	17	20	100	37	82	369	36	31	24
February.....	Males....	379	11	24	8	19	41	17	35	171	18	20	15
	Females..	333	9	23	10	15	39	11	35	141	20	27	3
	Total....	712	20	47	18	34	80	28	70	312	38	47	18
March.....	Males....	395	12	28	7	11	46	17	36	182	22	18	16
	Females..	434	17	28	7	24	68	15	44	171	22	28	10
	Total....	829	29	56	14	35	114	32	80	353	44	46	26
April.....	Males....	342	14	29	10	16	35	17	20	147	20	13	21
	Females..	316	13	31	6	12	36	14	17	140	23	16	8
	Total....	658	27	60	16	28	71	31	37	287	43	29	29
May.....	Males....	350	19	22	4	23	44	10	27	149	17	17	18
	Females..	308	10	20	4	10	41	12	28	144	15	19	5
	Total....	658	29	42	8	33	85	22	55	293	32	36	23
June.....	Males....	302	9	22	5	11	42	12	23	129	21	16	12
	Females..	273	7	24	4	9	34	8	27	125	18	14	3
	Total....	575	16	46	9	20	76	20	50	254	39	30	15
July.....	Males....	394	20	28	9	20	54	17	34	151	28	21	12
	Females..	326	11	30	3	17	53	13	23	134	26	11	5
	Total....	720	31	58	12	37	107	30	57	285	54	32	17

TABLE V.—DEATHS, 1905.—Concluded.

*Arranged by Months, Sexes, and Divisions of the State.*

MONTHS.	SEX.	Whole State.	DIVISIONS OF THE STATE.										
			Bristol County.	Kent County.	Newport County Towns.	Newport City.	Providence County Towns.	Central Falls.	Pawtucket.	Providence City.	Woonsocket.	Washington County.	State Institutions.
August.....	Males....	385	9	28	12	23	58	16	35	146	31	11	16
	Females.	386	15	26	11	23	45	22	32	162	25	19	6
	Total....	771	24	54	23	46	103	38	67	308	56	30	22
September....	Males....	310	17	18	8	20	49	17	31	111	19	13	7
	Females.	304	16	18	6	17	44	15	31	125	14	8	10
	Total....	614	33	36	14	37	93	32	62	236	33	21	17
October.....	Males....	316	11	20	13	17	40	13	22	124	22	18	16
	Females.	289	10	22	3	15	34	14	24	122	18	17	10
	Total....	605	21	42	16	32	74	27	46	246	40	35	26
November....	Males....	280	13	8	2	12	24	18	27	111	21	21	23
	Females.	324	6	27	10	16	42	18	36	130	15	17	7
	Total....	604	19	35	12	28	66	36	63	241	36	38	30
December.....	Males....	332	16	19	8	26	40	13	24	147	14	14	11
	Females.	346	8	23	7	18	44	18	35	143	26	18	6
	Total....	678	24	42	15	44	84	31	59	290	40	32	17
Whole Year...	Males....	4,173	160	272	95	206	527	184	350	1,744	256	196	183
	Females.	4,039	136	295	79	188	526	180	378	1,730	235	211	81
	Total....	8,212	296	567	174	394	1,053	364	728	3,474	491	407	264



TABLE VI.—DEATHS, 1905.

*Exhibiting the Whole Number, the Proportion to Population, and Number of each Sex, in every Town and Division of the State.*

TOWNS. AND DIVISIONS OF THE STATE.	Total Deaths.	Population, 1905.	Deaths per 1,000 of population.	DEATHS.	
				SEX.	Number of each Sex.
Barrington.....	16	1,923	8.3	Males.....	11
				Females.....	5
Bristol.....	180	7,512	24.0	Males.....	100
				Females.....	80
Warren.....	100	5,613	17.8	Males.....	49
				Females.....	51
BRISTOL COUNTY .....	296	15,048	19.7	Males.....	160
				Females.....	136
Coventry.....	106	5,698	18.6	Males.....	44
				Females.....	62
East Greenwich.....	48	3,218	14.9	Males.....	20
				Females.....	28
West Greenwich.....	13	474	27.4	Males.....	5
				Females.....	5
Warwick.....	400	24,773	16.1	Males.....	200
				Females.....	200
KENT COUNTY.....	567	34,163	16.6	Males.....	272
				Females.....	295
Jamestown.....	15	1,337	11.2	Males.....	4
				Females.....	11
Little Compton.....	22	1,232	17.9	Males.....	13
				Females.....	9
Middletown.....	19	1,581	12.0	Males.....	11
				Females.....	8
NEWPORT CITY.....	394	25,039	15.7	Males.....	206
				Females.....	188
New Shoreham.....	21	1,273	16.5	Males.....	13
				Females.....	8
Portsmouth.....	42	2,371	17.7	Males.....	23
				Females.....	19

TABLE VI.—DEATHS, 1905.—Continued.

*Exhibiting the Number of Deaths in each Period of Life, in every Town and Division of the State.*

PERIODS OF LIFE.															
Under 1 year.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 and over.
...	1	...	...	...	...	1	...	1	3	...	1	2	2	...	...
...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	2
21	2	1	2	...	...	1	4	2	4	6	8	21	18	10	...
19	7	2	...	1	1	...	3	4	4	2	8	11	9	8	1
19	5	2	...	...	...	1	1	1	1	5	6	4	2	2	...
8	6	1	...	...	1	1	...	3	3	3	8	6	7	4	...
40	8	3	2	...	...	3	5	4	8	11	15	27	22	12	...
27	13	3	...	1	2	1	3	7	7	5	16	19	16	13	3
8	2	3	...	...	...	...	...	2	4	2	5	7	7	2	2
15	4	1	2	1	2	1	1	6	2	3	3	6	6	7	2
2	2	...	...	...	...	...	...	...	...	1	5	3	5	2	...
3	1	...	...	...	...	...	...	1	3	3	8	4	2	2	1
1	...	...	...	...	...	...	...	...	...	...	2	1	2	2	...
1	...	...	...	...	...	...	...	...	...	...	1	1	1	1	...
55	10	3	2	3	2	5	6	14	20	11	17	21	21	7	3
40	19	1	4	2	2	5	3	11	17	19	21	21	25	9	1
66	14	6	2	3	2	5	6	16	24	14	29	32	35	13	5
59	24	2	6	3	4	6	4	18	22	25	33	32	34	19	4
1	1	...	...	...	...	...	...	...	1	...	...	1	...	...	...
...	...	...	...	...	...	1	...	1	1	...	1	1	5	1	...
3	...	...	...	...	...	...	...	...	...	...	1	2	3	3	1
1	...	...	...	1	...	...	...	...	...	...	1	2	3	1	...
2	1	1	...	...	...	...	2	...	...	...	1	1	2	1	...
2	1	1	...	...	...	...	...	1	...	2	...	...	...	1	...
38	8	...	1	1	5	3	11	20	16	22	14	28	25	9	5
39	6	2	...	2	3	2	2	11	8	17	17	25	35	15	4
1	2	...	...	...	...	...	...	2	...	1	...	2	2	3	...
1	1	...	...	...	...	...	...	...	...	1	2	1	2	...	...
10	...	...	...	1	...	...	...	1	1	2	...	2	3	3	...
8	...	2	...	...	...	...	...	1	1	1	1	1	3	1	...

TABLE VI.—DEATHS, 1905.—Continued.

*Exhibiting the Whole Number, the Proportion to Population, and Number of each Sex, in every Town and Division of the State.*

TOWNS. AND DIVISIONS OF THE STATE.	Total Deaths.	Population, 1905.	Deaths per 1,000 of population.	DEATHS.	
				SEX.	Number of each Sex.
Tiverton.....	55	3,240	17.0	Males.....	31
				Females.....	24
NEWPORT COUNTY.....	568	36,073	15.7	Males.....	301
				Females.....	267
Burrillville.....	108	7,425	14.5	Males.....	56
				Females.....	52
CENTRAL FALLS.....	364	19,446	18.7	Males.....	184
				Females.....	180
Cranston.....	192	14,932	12.8	Males.....	97
				Females.....	95
Cumberland.....	154	9,378	16.4	Males.....	76
				Females.....	78
East Providence.....	187	13,750	13.6	Males.....	104
				Females.....	83
Foster.....	17	1,160	14.7	Males.....	8
				Females.....	9
Glocester.....	25	1,557	16.1	Males.....	12
				Females.....	13
Johnston.....	59	4,550	13.0	Males.....	24
				Females.....	35
Lincoln.....	115	9,222	12.5	Males.....	49
				Females.....	66
North Providence.....	45	3,816	11.8	Males.....	21
				Females.....	24
North Smithfield.....	44	2,496	17.6	Males.....	27
				Females.....	17
PAWTUCKET.....	728	43,381	16.8	Males.....	350
				Females.....	378
PROVIDENCE CITY.....	3,474	198,635	17.5	Males.....	1,744
				Females.....	1,730

TABLE VI.—DEATHS, 1905.—Continued.

*Exhibiting the Number of Deaths in each Period of Life, in every Town and Division of the State.*

PERIODS OF LIFE.															
Under 1 year.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 and over.
5	1	1	2	1	...	...	...	...	4	4	1	7	5	...	...
6	2	...	2	1	2	...	...	4	...	3	...	3	1	...	...
60	13	2	3	3	5	3	13	23	22	29	17	43	40	19	6
57	10	5	2	4	5	3	2	18	10	24	12	33	49	19	4
21	2	...	2	...	2	...	1	3	2	7	3	5	4	4	...
8	4	...	...	1	2	...	3	4	3	5	4	9	7	2	...
67	24	5	1	1	6	1	8	11	8	10	13	15	12	2	...
53	15	7	4	...	3	3	5	11	14	14	15	14	14	7	1
22	4	1	...	1	7	2	...	10	3	5	12	15	9	5	1
22	6	3	...	...	1	2	...	6	7	7	9	9	11	10	2
21	7	...	...	...	1	1	1	6	10	7	9	3	9	1	...
15	1	1	...	1	1	2	2	8	5	9	11	7	9	5	1
26	3	1	1	...	3	...	4	6	13	8	13	10	10	5	1
7	2	1	1	1	2	1	2	7	11	2	16	10	10	8	2
...	...	...	...	1	...	...	...	...	2	2	...	2	3	...	...
...	...	...	...	...	...	...	...	...	2	2	...	1	1	3	...
1	...	...	...	...	...	...	...	1	...	1	1	1	5	2	...
1	1	...	...	...	...	...	...	1	2	1	...	3	3	1	...
5	3	1	1	...	1	1	...	...	2	3	2	4	...	1	...
11	2	...	...	...	1	1	1	1	1	5	2	4	1	3	2
19	4	...	...	...	2	2	1	3	2	4	2	5	5	...	...
9	4	2	1	...	1	1	4	7	6	6	4	5	8	7	1
5	2	...	...	...	1	...	1	1	1	...	1	2	4	3	...
4	...	...	...	1	1	...	1	3	3	3	2	3	1	2	...
7	...	...	1	...	...	...	...	1	2	1	3	5	5	1	1
2	...	...	...	...	1	...	2	1	1	...	...	3	6	1	...
89	20	6	4	4	11	6	6	18	28	31	40	40	38	9	...
80	13	3	2	2	8	5	5	31	20	29	54	53	49	19	5
357	70	28	20	18	38	18	41	154	193	195	205	203	146	51	7
325	69	37	22	13	47	23	39	155	177	155	202	191	173	85	17

TABLE VI.—DEATHS, 1905.—Continued.

*Exhibiting the Whole Number, the Proportion to Population, and Number of each Sex, in every Town and Division of the State.*

TOWNS. AND DIVISIONS OF THE STATE.	Total Deaths.	Population, 1905.	Deaths per 1,000 of population.	DEATHS.	
				SEX.	Number of each Sex.
Scituate.....	69	3,207	21.5	Males.....	31
				Females.....	38
Smithfield.....	38	2,267	16.8	Males.....	22
				Females.....	16
WOONSOCKET.....	491	32,196	15.3	Males.....	256
				Females.....	235
PROVIDENCE COUNTY.....	6,110	367,418	16.6	Males.....	3,061
				Females.....	3,049
Charlestown.....	14	959	14.6	Males.....	2
				Females.....	12
Exeter.....	8	789	10.1	Males.....	4
				Females.....	4
Hopkinton.....	35	2,453	14.3	Males.....	16
				Females.....	19
Narragansett.....	25	1,469	17.0	Males.....	12
				Females.....	13
North Kingstown.....	83	4,046	20.5	Males.....	41
				Females.....	42
South Kingstown.....	105	5,224	20.1	Males.....	52
				Females.....	53
Richmond.....	30	1,421	21.1	Males.....	14
				Females.....	16
Westerly.....	107	8,381	12.8	Males.....	55
				Females.....	52
WASHINGTON COUNTY....	407	24,742	16.4	Males.....	196
				Females.....	211
—					
STATE INSTITUTIONS.....	264	2,638	100.1	Males.....	183
				Females.....	81

TABLE VI.—DEATHS, 1905.—Continued.

*Exhibiting the Number of Deaths in each Period of Life, in every Town and Division of the State.*

PERIODS OF LIFE.															
Under 1 year.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 and over.
5	...	...	...	...	...	...	...	2	1	...	4	6	5	8	...
6	1	2	...	...	1	1	2	1	1	2	4	6	7	4	...
4	...	...	1	1	1	...	...	...	1	2	3	2	3	3	1
5	...	...	...	...	...	1	...	...	1	1	1	2	4	1	...
90	22	9	2	4	10	2	2	19	18	15	15	18	20	9	1
62	10	8	5	8	6	3	4	22	18	18	17	21	24	9	...
739	161	51	33	30	83	33	65	235	284	291	326	336	278	104	12
610	128	64	35	27	75	43	70	258	272	259	341	341	328	167	31
...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...
1	...	...	...	...	...	...	1	...	1	1	1	3	...	2	2
...	...	1	...	...	1	...	...	1	...	...	1	...	...	2	...
...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...
...	...	...	...	...	...	...	1	...	1	1	2	3	6	1	1
...	...	...	...	...	...	...	...	1	...	1	2	4	6	5	...
2	...	...	...	...	1	...	...	1	3	1	...	1	...	2	1
2	1	...	1	...	...	...	...	1	3	...	...	...	3	1	1
5	...	...	...	1	1	2	1	1	3	4	2	7	7	6	1
4	3	...	...	...	...	...	...	6	2	1	10	5	6	5	...
5	...	1	...	...	1	1	2	1	...	6	6	8	12	8	1
2	1	...	1	...	1	...	4	1	4	4	5	12	11	7	...
1	...	...	...	1	...	1	...	1	...	2	2	2	2	2	...
6	1	...	...	...	...	...	...	1	2	1	...	...	2	1	2
10	2	2	...	1	...	1	1	2	2	4	7	7	12	4	...
9	1	...	1	...	1	1	3	2	8	4	7	4	5	6	...
23	2	4	...	3	4	5	5	7	10	18	20	28	40	23	4
24	7	...	3	...	2	1	8	12	20	13	25	29	33	29	5
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	1	...	...	...	1	1	2	16	36	27	28	34	27	8	...
3	...	...	...	...	...	...	2	8	7	15	9	18	12	7	...



TABLE VI.—DEATHS, 1905.—Continued.

(RECAPITULATION.)

*Exhibiting the Whole Number, the Proportion to Population, and Number of each Sex, in every Town and Division of the State.*

DIVISIONS OF THE STATE.	Total Deaths.	Population, 1905.	Deaths per 1,000 of population.	DEATHS.	
				SEX.	Number of each Sex.
BRISTOL COUNTY.....	296	15,048	19.7	Males.....	160
				Females.....	136
KENT COUNTY.....	567	34,163	16.6	Males.....	272
				Females.....	295
NEWPORT COUNTY.....	568	36,073	15.7	Males.....	301
				Females.....	267
PROVIDENCE COUNTY....	6,110	367,418	16.6	Males.....	3,061
				Females.....	3,049
WASHINGTON COUNTY....	407	24,742	16.4	Males.....	196
				Females.....	211
STATE INSTITUTIONS.....	264	2,638	100.0	Males.....	183
				Females.....	81
WHOLE STATE.....	8,212	480,082	17.1	Males.....	4,173
				Females.....	4,039

TABLE VI.—DEATHS, 1905.—Concluded.

(RECAPITULATION.)

*Exhibiting the Whole Number, the Proportion to Population, and Number of each Sex, in every Division of the State.*

	PERIODS OF LIFE.															
	Under 1 year.	1 to 2.	2 to 3.	3 to 4.	4 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 and over.
40	8	3	2	.....	.....	3	5	4	8	11	15	27	22	12	.....	
27	13	3	.....	1	2	1	3	7	7	5	16	19	16	13	3	
66	14	6	2	3	2	5	6	16	24	14	29	32	35	13	5	
59	24	2	6	3	4	6	4	18	22	25	33	32	34	19	4	
60	13	2	3	3	5	3	13	23	22	29	17	43	40	19	6	
57	10	5	2	4	5	3	2	18	10	24	12	33	49	19	4	
739	161	51	33	30	83	33	65	235	284	291	326	336	278	104	12	
610	128	64	35	27	75	43	70	258	272	259	341	341	328	167	31	
23	2	4	.....	3	4	5	5	7	10	18	20	28	40	23	4	
24	7	.....	3	.....	2	1	8	12	20	13	25	29	33	29	5	
2	1	.....	.....	.....	1	1	2	16	36	27	28	34	27	8	.....	
3	.....	.....	.....	.....	.....	.....	2	8	7	15	9	18	12	7	.....	
930	199	66	40	39	95	50	96	301	384	390	435	500	442	179	27	
780	182	74	46	35	88	54	89	321	338	341	446	472	472	254	47	

TABLE VII.—CAUSES OF DEATH, 1905.

Arranged Alphabetically; showing the Number of each Sex who died from each cause, in each month and in the whole year 1905; the Number of Native-born and Foreign-born, and also the Number of Native and of Foreign Parentage, from each cause, for the year.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Am.	For.	Am.	For.	M.	F.	
Abscess of Brain.....	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	2	1	2		
Jaw.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	1	
Kidney.....	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	3	1	2	2	2	
Liver.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	5	..	5	..	3	2	3	2	
Neck.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	1	..	
Nose.....	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	1	..	1	..	
Ovary.....	..	1	..	..	..	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1	2	1	2	..	3	..	3	
Intra-abdominal.....	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	1	..	1	
Pelvic.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	
Perinephritic.....	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	1	
Periurethral.....	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	1	
Psoas.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	..	..	4	..	2	2	3	1	..	1
Rectal.....	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	1	2	1	3	..	3	..	1
Abscesses, Multiple.....	..	..	1	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	3	..	2	1	2	1	2	1	1
Accidents, Asphyxia.....	2	2	2	..	2	..	1	2	..	1	1	1	1	1	1	1	1	1	2	..	1	3	1	15	8	10	13	12	11	11	11
Burns and Scalds.....	4	1	1	3	..	1	1	..	1	1	..	1	1	1	1	1	1	1	1	..	2	..	1	17	4	9	12	6	15	15	
Drowning.....	1	3	1	1	5	1	5	1	5	..	8	13	..	13	..	7	2	3	2	4	..	3	..	38	21	15	44	53	6	6	
Electric Car.....	2	..	3	..	3	1	1	1	1	1	2	..	..	..	2	..	1	..	3	1	1	1	11	7	5	13	17	1	1	1	
Electric Shock.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	1	1	3	4	..	1	
Elevator.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1

TABLE VII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Am.	For.	Am.	For.	M.	F.	
Accidents, Exposure to Cold.																															
Falls.....	5	2	4	4	3	2	3	4	4	2	3	4	3	..	4	3	5	3	..	..	..	..	..	..	1	..	20	48	1	..	
Firearms.....	1	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	3	..	2	1	2	1	2	2
Heat.....	..	..	..	..	..	..	..	..	..	..	..	..	9	2	..	..	..	..	..	..	..	..	..	5	6	5	6	9	2	2	2
Machinery.....	1	1	1	1	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	3	2	..	5	5	..	..	..
Poison.....	1	1	1	1	1	1	1	1	1	1	1	1	..	..	1	..	..	..	..	..	..	1	10	..	3	7	3	7	2	8	8
Railroad.....	1	2	2	2	2	5	5	1	6	1	5	1	6	..	1	3	3	3	..	..	2	1	1	24	12	12	24	35	1	1	1
Various other.....	1	2	1	4	4	2	1	4	1	5	2	4	..	..	4	..	..	3	3	..	3	3	3	26	15	16	25	34	7	7	7
Addison's Disease.....	1	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	1	1	1	1	1	1
Adenitis.....	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	..	..	..
Alcoholism.....	4	2	..	6	2	4	3	3	4	1	5	3	8	..	6	1	5	3	6	1	8	2	47	30	21	56	59	18	4	4	4
Delirium Tremens.....	..	..	..	..	..	..	..	..	..	..	1	..	1	..	2	..	..	..	..	..	..	1	4	..	4	..	4	..	4	..	..
Anemia, Pernicious	..	..	1	1	1	1	1	1	1	1	1	1	3	..	1	2	..	..	..	..	..	1	2	12	3	8	7	7	8	8	8
Aneurism of Aorta.....	1	1	..	..	..	..	..	..	1	..	1	..	1	..	..	..	..	1	..	..	1	..	..	..	6	..	6	5	1	1	1
Abdominal Aorta.....	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	..	..	..
Angina Pectoris.....	1	3	1	3	1	1	1	2	2	1	3	3	1	..	1	1	2	1	1	1	1	5	32	7	28	11	18	21	18	21	21
Apoplexy.....	10	20	8	15	7	14	6	11	4	8	4	8	12	11	5	4	10	5	5	6	7	18	15	131	102	118	115	93	140	140	140
Appendicitis.....	2	1	4	3	3	1	2	3	4	5	5	2	3	3	1	2	3	3	1	2	4	2	1	3	41	19	20	40	37	23	23
Asthma.....	1	2	2	1	2	1	1	3	1	1	2	..	2	..	1	1	1	1	..	2	1	1	3	15	10	7	18	12	13	13	13
Atelectasis Pulmonum.....	1	1	..	..	1	..	1	..	1	..	..	..	..	..	1	1	1	1	..	1	..	8	..	3	5	4	4	4	4	4	4
Atheroma of Arteries.....	..	..	..	..	..	..	..	..	..	2	..	..	..	..	2	..	..	..	1	..	..	2	4	1	4	1	4	1	5	..	..
Brain, Softening of.....	..	..	1	..	1	..	1	..	1	..	..	..	..	..	..	..	1	..	..	..	1	..	3	2	3	2	1	4	..	..	..
Bronchitis, Acute.....	13	16	13	11	13	18	11	10	7	4	4	6	1	3	2	1	6	2	9	2	5	6	12	10	150	35	56	129	96	89	89

TABLE VII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Am.	For.	Am.	For.	M.	F.
Bronchitis, Chronic.....	3	3	4	2	1	3	2	3	4	1	2	4	2	1	..	..	1	..	3	2	1	1	..	1	16	28	15	29	23	21
Calculi, Renal.....	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	1	..
Cancer of Abdominal Viscera.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	1	2	1	1	2	..
Bladder.....	1	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	1	5	..	5	..	4	1	..
Breast.....	6	2	..	2	..	3	..	4	..	2	..	4	..	4	..	4	7	..	6	..	5	..	32	18	28	22	..	50	..	
Esophagus.....	1	..	..	..	..	1	..	1	..	1	..	..	..	..	1	..	1	..	..	1	..	..	1	4	1	4	1	4	3	2
Eye.....	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	..
Face.....	1	..	..	1	..	1	..	1	1	1	1	1	1	..	..	1	..	3	..	1	..	..	1	5	6	5	6	5	6	..
Gall Bladder.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	..	..	1	1	2	2	..
Inguinal Glands.....	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	2	..	2	2	2	..
Intestine.....	1	2	..	2	..	2	..	3	1	1	1	1	2	..	2	..	1	1	1	..	..	..	4	11	11	9	13	10	12	..
Jaw.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	1	1	1	1	1	..
Larynx.....	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	1	1	2	..	..
Lip.....	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1	..	..	..	..	1	1	1	1	1	1	1	..
Liver.....	1	2	3	1	1	3	2	1	..	2	1	8	4	..	2	2	3	2	1	2	..	3	3	22	27	19	30	27	22	..
Lung.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	1	1	1	1
Maxilla (Inferior).....	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	1
Mediastinum.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1	1	1	1	..
Mouth.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1	1	1	1	..
Navel.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1	1	1	1	..
Neck.....	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	..	2	1	1	1	2	2	1	..
Nose.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1	1	1	1	1	1	..
Omentum.....	1	1	..	1	1	1	2	..	1	1	1	1	1	..	1	..	1	2	..	..	..	..	4	7	3	8	6	5	..	

TABLE VII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Cancer of Ovary.....																									1	1	1	1	...	2	
Palate (Soft).....					1							1								1					2	...	1	1	2	...	
Pancreas.....							1						1							2	...				2	...	1	1	1	1	
Parotid Gland.....			1																	1	...				1	...	1	1	1	1	
Penis.....			1																	1	...				1	...	1	1	1	1	
Prostate Gland.....																1				1	...				1	...	1	1	1	1	
Pylorus.....					1						1									2					2	1	1	2	2	1	
Rectum.....	1		2		3						3				2				2	...	1	1			10	5	8	7	4	11	
Sigmoid Flexure.....																			1	1	...				1	1	1	1	...	2	
Spine.....																			1	1	...				2	...	2	...	1	1	
Stomach.....	1	3	2	1	2	1	2	2	6	5	7	4	1		5	3	2	3	5	3	3	1	3	35	32	29	38	27	40	...	...
Throat.....	1						1					2			1				...	...				4	2	2	4	5	1	1	2
Tongue.....									1	1									...	...				...	1	1	1	1	1	1	2
Uterus.....	4		6		7		3		6	8		8		8	13		8		...	...				55	28	44	39	...	...	83	...
Cerebritis.....																			...	...	1			...	1	...	1	1	1	...	
Childbirth*.....					1		3		2		1	3		3					...	...				4	7	1	10	...	...	11	...
Post-partum Hemorrhage.....			1		1					1	1		1		2		1		1	1	...			4	4	2	6	...	...	8	...
Puerperal Embolism.....							1		1		1		1						...	...				2	1	2	1	...	...	3	...
Puerperal Nephritis and Ec-																															
lampsia.....	2		1		2		3		2		2		2		3		1		3	...	3			16	10	7	19	...	...	26	...
Puerperal Peritonitis.....	4		2		1		2		2		1								1	...	1			4	9	2	11	...	...	13	...
Puerperal Septicemia.....	1		3		3		6		3		5		2		2		4		1	...	1	3		15	22	2	35	...	...	37	...
Cholera Infantum.....	1	2	1		2	1			2		6	9	57	44	56	58	27	19	9	7	2	2	2	303	4	97	210	163	144	...	...

\* Not otherwise classified.



TABLE VII.—CAUSES OF DEATH, 1905—Continued.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Am.	For.	Am.	For.	M.	F.		
Chorea, Acute.....					1																			1	...	1	...	...	...	1		
Colitis (under 2 years).....							1																	1	...	1	...	...	...	1		
Enteritis (under 2 years).....	1		1		1		1		1		4		6	6	12	9	5	4	7	5	1	2	2	65	2	14	53	36	31			
Ileitis (under 2 years).....	1																1							2	...	2	...	...	...	1		
Enteritis (over 2 years).....	1												2		2	2	1	3	1	1	1	1		11	2	6	7	6	7			
Convulsions of Children*.....	1	2	4	3	4	1					2	2	3	2			1		2	1	1	1		29		20	9	9	20			
Croup (without membrane).....	2		1			1					1						1	3	3					13		5	8	5	8			
Cystitis.....	3	2			1	1	1		1		3				2						1	1		12	3	10	5	14	1			
Debility, Congenital (under 3 months).....	6	5		2	3	7	2	1	3	3	7	3	4	3	5	2	2	1	2	4	3	1	7	6	82		28	54	44	38		
Asphyxia Neonatorum.....			2			1			1		2	1	1	1	2				1					15		4	11	10	5			
Difficult Labor.....	2	1	3	1	1	3		3		3	2	1	1		2		1	2	1		2	1	2	1	30		12	18	23	7		
Injury at Birth.....	3	2		1		1		1	3						3		4		2	3		2		27		19	8	17	10			
Premature Birth.....	9	4	6	7	5	7	6	6	11	8	4	6	9	7	7	6	5	8	6	7	7	12	6	10	469		73	96	81	88		
Diabetes.....	4	1		5	3	1		1	1	2	1	1	1	4	3	3	1	1	2	1	1	3		2	22	19	18	23	17	24		
Mellitus.....	2	1	2	1		1	1	3	1	1	3	1	1	3		1	1	1	4	2	1		3	1	2	23	11	19	15	14	20	
Diphtheria.....	9	5	4	4	4	2	4	3	4	4	1	2	3	5	5	2	1	1	4	6	3	3	11	9	94	5	42	57	53	46		
Membranous Croup.....	1	1			1	2	1				2	1	2	1	1		2				1	2	1		21	1	3	19	12	10		
Dysentery.....	1	1		2	1			1			3	2	6	6	10	6	9	5	1	3	1			1	41	18	27	32	32	27		
Eczema (under 3 months).....																								2			1	1	1	1		
Embolism, Arterial.....																								1	1	1	1	1	1	1		
Cerebral.....			1	1				1			1		1		1		1							8	4	6	6	4	8			
Pulmonary.....																								1		1	2	1	2	1		

\* Cause unknown.

TABLE VII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
	Am.		F.		M.		F.		M.		F.		M.		F.		M.		F.		M.		F.		M.		F.		M.	
Emphysema Pulmonary.....	2	5	2	2	2	3	1	2	5	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	1
Endocarditis.....	3	1	1	1	1	3	6	3	8	6	10	11	7	3	1	4	1	4	1	4	1	3	3	3	33	18	20	31	25	26
Enteritis (under 2 years).....	3	1	2	1	3	2	4	2	1	25	14	14	16	11	7	9	4	3	2	3	2	3	4	4	81	5	28	58	46	40
Gastro (under 2 years).....	2	1	1	2	4	1	1	5	3	1	4	7	9	2	2	3	3	3	3	3	3	3	3	3	131	3	39	95	74	60
Enteritis (over 2 years).....	2	1	1	2	1	1	1	1	3	2	2	3	4	2	3	1	1	1	1	1	1	1	1	1	38	19	21	36	26	31
Gastro (over 2 years).....	2	1	2	1	2	4	1	3	1	3	2	2	3	1	1	2	1	1	1	1	1	1	1	1	26	7	14	19	14	19
Epilepsy.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Epistaxis.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Erysipelas of Face.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Hand.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Leg.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
General.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Fibroid of Uterus.....	1	1	2	1	2	1	2	1	2	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Gall-bladder, Inflammation of	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	5	4	7	7	11
Gall-stones.....	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	5	4	7	7	11
Gangrene, Senile, of Foot....	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	9	5
Leg.....	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	9	5
Gastric Ulcer.....	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	9	5
Gastritis.....	1	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	9	5
Goitre, Exophthalmic.....	15	14	15	18	15	22	14	14	15	11	9	8	19	14	12	10	5	10	8	9	10	19	16	17	164	155	132	187	153	166
Heart Diseases, Organic*.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	7	7
Enlargement.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	7	7
Fatty Degeneration.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	7	7

\* Not otherwise classified.

TABLE VII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.				PARENT-AGE.		SEX.					
	M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		Am.		For.		Am.		For.		M.		F.	
Heart, Hypertrophy.....	1	..	..	..	..	..	..	..	1	2	..	..	..	..	1	..	..	..	..	..	1	..	..	..	2	4	..	6	3	3	..	..	3	3		
Valvular Disease.....	17	15	13	5	15	16	15	8	11	10	10	6	7	5	8	12	10	11	10	15	13	10	10	9	166	95	128	133	139	122	..	..	139	122		
Hemiplegia.....	..	..	..	..	1	1	..	..	1	..	..	..	2	1	..	..	1	..	1	..	2	..	..	7	5	7	5	3	9	..	..	3	9			
Hemorrhage, Cerebral.....	12	10	10	9	10	15	8	6	5	6	10	10	6	6	3	9	7	8	7	9	9	12	6	118	86	101	103	93	111	..	..	93	111			
Hemorrhage of Lungs (under 3 months).....	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..	..	..	1	1	1	1			
General (under 3 months)....	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2	..	2	..	..	2			
Umbilical (under 3 months)....	1	..	1	1	1	..	1	..	1	..	..	..	..	..	1	..	2	1	..	1	..	1	..	10	..	2	8	5	5	..	..	5	5			
Uterine (cause unknown)....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	1	1			
Pulmonary (Adults, no T. B.).....	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	2	1	2	1	3	..	3	..	3	..		
Hepatitis.....	1	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	1	..	..	..	1	..	3	..	2	1	2	..	2	1	2	..		
Hernia*.....	1	..	..	..	1	..	..	..	2	..	..	..	1	2	..	..	..	..	2	..	..	..	..	3	6	2	7	2	7	..	2	7	2	7		
Femoral.....	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	2	..	2	1	1	..	2	1	1		
Inguinal.....	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	1	..	1		
Umbilical.....	1	..	..	..	1	..	1	1	1	1	..	1	..	..	..	..	2	..	..	..	..	1	..	1	2	5	..	7	..	7	..	7	..	7		
Hodgkin's Disease.....	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	1	..		
Homicide.....	1	..	1	1	1	..	1	1	1	..	..	..	1	..	1	..	1	..	1	..	..	..	..	4	2	..	6	3	3	..	3	3	3	3		
Icterus Neonatorum.....	1	..	1	..	..	..	2	1	..	..	..	..	..	..	1	..	1	..	..	2	..	..	7	..	7	..	2	5	5	2	5	2	5	2		
Indigestion, Acute (under 3 months).....	1	..	..	1	4	1	1	2	1	1	1	1	..	..	3	..	1	3	..	2	..	1	4	1	28	..	13	15	13	15	13	15	13	15		
Indigestion, Acute (over 3 months).....	1	3	2	..	1	..	3	..	7	3	3	1	1	2	3	5	2	2	2	3	1	2	3	46	4	22	28	29	21	..	..	29	21			

\* Not otherwise classified.

TABLE VII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.			
	M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		Am. For.		Am. For.		M. F.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
Indigestion, Chronic (over 3 months).....	5	...	1	...	1	...	1	4	2	...	4	3	1	6	4	9	2	3	2	1	2	...	1	2	...	1	51	...	19	32	27	24
	12	18	9	25	8	16	3	8	2	1	...	1	...	...	...	...	...	...	...	...	1	1	1	1	67	40	54	53	35	72		
Influenza.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2	...	2	...	2	...		
Insanity*.....	1	...	1	...	1	1	...	1	1	1	...	...	...	3	1	1	1	...	...	1	...	...	...	11	...	11	...	6	5	...		
Chronic Delusional.....	1	1	1	1	3	2	1	...	2	...	3	...	3	...	...	...	...	...	...	...	...	...	1	13	5	8	10	7	11	...		
Dementia.....	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	2	...	3	2	1	...		
Dementia, Paretic.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	2	1	3	2	2	...		
Mania, Acute.....	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Mania, Chronic.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...		
Melancholia.....	2	...	...	...	...	...	...	...	...	...	3	...	3	...	...	...	1	...	...	...	...	...	...	5	2	4	3	6	1	...		
General Paralysis of.....	...	...	...	...	2	...	...	...	1	...	...	...	...	1	2	...	2	1	1	1	1	...	...	8	4	7	5	6	6	...		
Intestinal Obstruction from adhesions.....	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	2	2	1	3	1	3	...		
Fecal Impaction.....	...	...	...	...	...	...	...	...	...	...	2	...	2	...	1	2	1	...	2	...	1	...	...	4	5	2	7	4	5	...		
Cause unknown.....	...	...	...	...	1	1	...	1	1	...	1	...	1	...	1	2	...	3	...	...	...	...	...	5	5	5	5	9	1	...		
Intussusception.....	...	2	1	1	...	1	...	1	1	1	...	1	...	1	...	...	...	...	...	...	...	...	...	8	...	4	4	5	3	...		
Kidneys, Acute Bright's Disease.....	...	...	1	1	...	...	...	...	2	1	...	...	...	1	2	...	1	...	...	...	...	...	...	5	4	5	4	4	5	...		
Chronic Brights Disease.....	5	7	4	4	6	3	5	5	3	10	2	4	3	6	5	1	2	5	3	9	7	3	10	83	33	66	50	59	57	...		
Acute Nephritis.....	3	1	5	5	1	3	5	3	11	8	3	3	2	2	1	2	1	2	...	...	3	8	5	47	32	22	57	43	36	...		
Chronic Nephritis.....	19	15	16	16	17	21	16	17	24	16	15	13	19	18	19	20	16	19	14	14	11	23	21	252	166	183	235	217	201	...		
Laryngitis.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	2	...	...	2	1	1	...		
Leukemia.....	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	1	1	1	1	...		

\* Not otherwise classified.

TABLE VII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.		
	M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		Am. For.		Am. For.		M. F.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Am.	For.	Am.	For.	M.	F.	
Liver, Amyloid.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1	..	1	..	
Acute Yellow Atrophy of..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3	1	4	1	4	
Cirrhosis of.....	3	5	4	1	9	3	3	1	3	5	..	4	3	..	2	..	2	1	3	3	4	3	..	33	35	19	49	43	25	4	
Enlargement of.....	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	2	2	3	1	1	
Hypertrophy of.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..	..	3	3	2	1	1	
Sclerosis of.....	1	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	1	1
Locomotor Ataxia.....	..	..	1	1	1	1	1	..	..	..	1	..	..	..	1	..	1	1	..	..	..	..	..	1	2	3	3	2	2	1	1
Lupus of Nose.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	..	1	..	6	3	5	4	5	4	5	4
Malarial Fever.....	..	..	1	..	1	..	1	..	..	1	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	1	1	1	1	1	1
Malassimilation (under three months).....	..	..	..	..	..	..	..	..	..	1	..	1	..	1	2	..	1	1	..	1	1	..	..	6	4	4	6	6	4	6	4
Malassimilation (over three months).....	2	2	2	..	3	2	4	1	3	4	2	2	7	4	9	11	4	3	7	5	3	4	4	1	89	...	37	52	50	39	39
Malformations, Imperforate Anus.....	1	1	..	..	..	..	..	..	1	..	..	..	..	..	2	..	1	1	4	..	1	..	..	11	..	6	5	3	8	8	
Cleft Palate.....	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	2	1	3	..	3	..
Foramen Ovale, Patent....	2	2	2	4	2	3	2	5	4	1	2	1	1	..	1	1	1	5	..	2	1	1	1	42	..	24	18	28	14	14	14
Hydrocephalus.....	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	3	..	..	3	2	1	1	1
Spina Bifida.....	1	..	1	1	1	1	1	..	1	..	..	..	..	1	1	..	1	..	..	..	..	..	..	9	..	1	8	3	6	6	6
Imperforate Urethra.....	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1	1	1	1	1	1
Mastoiditis.....	1	..	1	..	1	1	1	1	..	1	..	1	..	1	1	..	1	..	2	..	..	..	1	6	3	4	5	6	6	3	3
Measles.....	..	..	..	..	2	3	2	2	1	1	2	3	1	..	5	2	3	2	4	3	6	..	..	42	2	9	35	18	26	26	26
Meningitis.....	1	4	2	1	3	5	2	4	3	1	6	3	2	3	1	2	1	1	1	5	1	1	1	50	4	19	35	30	24	24	24









TABLE VII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.	
	M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		Am. For.		Am. For.		M. F.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Am.	For.	Am.	For.	M.	F.
Suicide, Throwing self in front of Electric Car.....											1														1				1	
Poison, Bichloride Mercury.													1													1				1
Carbolic Acid.....	1										1						1								4		2		4	
Cyanide Potassium.....																	1								1		1		1	
Paris Green.....																	1								1		1			
Some Unknown Drug.....																		1							1		1		1	
Syphilis.....		1			2		1		1		1		2		1										3		3		7	
Hereditary.....	2						1	3	1	2							1							15		8		7	10	5
Thrombosis, Cerebral.....																	1							1		1				1
Mesenteric.....											1								1					1		1		1		2
of Iliac Veins.....																								1		1				1
Tonsilitis.....																								3		1		2		1
Tubercular Abscess, Abdomen																										1				1
Tubercular Abscess, Pelvis																								1		1				1
Tuberculosis, General.....	1	3	1				3	3		4	2	1	1				3				2			19	10	8	21	19	10	
of Glands of Neck.....								1																3		2		1	2	1
of Joints.....																														1
of Hip-joint.....	1							1																7		1		3	4	3
of Shoulder-joint.....																								1		1				1
of Kidney.....																								1		1				1
Pulmonary.....	42	35	44	29	48	49	39	31	38	29	29	31	31	39	30	28	40	29	36	39	27	24			512	324	254	582	441	395
Tuberculous Cystitis.....																1		1						1		1		2		2

TABLE VII.—CAUSES OF DEATH, 1905.—Concluded.

CAUSES OF DEATH.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		NATIVITY.		PARENT-AGE.		SEX.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Am.	For.	Am.	For.	M.	F.
Tuberculous Enteritis.....	1	1	1	1	1	2	1	2	1	1	2	1	1	1	3	1	2	1	1	1	1	1	1	13	5	5	13	8	10	
Laryngitis.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	
Meningitis.....	6	2	6	6	5	3	4	3	4	9	2	5	5	3	6	3	6	1	4	4	4	4	4	92	11	37	66	56	47	
Peritonitis.....	1	1	1	1	2	3	2	3	2	1	1	1	1	1	1	3	1	1	1	1	1	1	13	3	7	9	11	5		
Tumor* of Brain.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	2	2	2	2	1	4		
Intestine.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Leg.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Liver.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Muscles of Chest and Lungs.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Omentum.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Typhoid Fever.....	5	1	2	1	3	2	1	1	2	2	1	2	3	3	8	9	5	6	9	5	3	5	6	62	22	37	47	48	36	
Umbilicus, Inflammation of.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Uterine Disease.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Varicella.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Varicose Ulcers.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	
Cause Unknown.....	3	1	2	1	2	2	4	1	2	1	1	1	2	2	1	3	2	3	1	2	1	1	26	11	8	29	25	12		

\* Undefined.







TABLE VIII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH		Under 1.		1 and under 2.		2 to 3.		3 to 4.		4 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 and over.		Age not stated.		SEX.		TOTAL.			
		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.							
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				M.	F.	
Cancer of Larynx.....																																									
Lip.....																																									
Liver.....																																									
Lung.....																																									
Maxilla (Inferior).....																																									
Mediastinum.....																																									
Mouth.....																																									
Navel.....																																									
Neck.....																																									
Nose.....																																									
Omentum.....																																									
Ovary.....																																									
Palate (Soft).....																																									
Pancreas.....																																									
Parotid Gland.....																																									
Penis.....																																									
Prostate Gland.....																																									
Pylorus.....																																									
Rectum.....																																									
Sigmoid Flexure.....																																									
Spine.....																																									
Stomach.....																																									
Throat.....																																									
Tongue.....																																									
Uterus.....																																									
Cerebritis.....																																									
Childbirth*.....																																									

\* Not otherwise classified.

TABLE VIII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Under 1.		1 and under 2.		2 to 3.		3 to 4.		4 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 and over.		Age not stated.		SEX.		Total.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				
Childbirth, Puerperal Embolism.....															1		1																				3	3		
Puerperal Nephritis and Eclampsia.....															2		14		5		4																26	26		
Puerperal Peritonitis.....															1		7		4		1																13	13		
Puerperal Septicemia.....															3		22		8		3																37	37		
Cholera Infantum.....	135	130	28	14																																		163	144	307
Chorea, Acute.....															1																							1	1	
Colitis (under 2 years).....	1																																					1	1	
Enteritis (under 2 years).....	30	26	6	5																																		36	31	67
Ileitis (under 2 years).....	1	1																																			1	1	2	
Enteritis (over 2 years).....					2	1	2		1										1				2													6	7	13		
Convulsions of Children*.....	9	16	4																																			9	20	29
Croup (without membrane).....	1	1	1	1	1	2	1	1	2																												5	8	13	
Cystitis.....																																						14	1	15
Debility, Congenital (under 3 months).....																																						44	38	82
Asphyxia Neonatorum.....	44	38																																				10	5	15
Difficult Labor.....	10	5																																				23	7	30
Injury at Birth.....	23	7																																				17	10	27
Premature Birth.....	17	10																																				81	88	169
Diabetes.....	81	88																																				17	24	41
Diabetes Mellitus.....															1																							14	20	34
Diphtheria.....	3	4	9	5	6	9	7	5	7	2	13	14	3	4	2		2		3		1	4	2	5	3	6	2	1										53	46	99
Membranous Croup.....	1	2	3	5	2	1																																12	10	22
Dysentery.....	8	6	5	3																																		32	27	59
Eczema (under 3 months).....	1	1																																				1	1	2
Embolism, Arterial.....																																						1	1	2

\* Cause unknown.

TABLE VIII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Under 1.		1 and under 2.		2 to 3.		3 to 4.		4 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 and over.		Age not stated.		SEX.		TOTAL.										
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.											
Embolism, Cerebral.....																																															
Pulmonary.....																																															
Empysemata. Pulmonary.....																																															
Endocarditis.....	1	2																																													
Enteritis (under 2 years).....	37	36	9	4																																											
Gastro (under 2 years).....	63	47	11	13																																											
Enteritis (over 2 years).....																																															
Gastro (over 2 years).....																																															
Epilepsy.....	2	1																																													
Epistaxis.....	1																																														
Erysipelas of Face.....	1																																														
Hand.....																																															
Leg.....																																															
General.....	1	2																																													
Fibroid of Uterus.....																																															
Gall-bladder, Inflammation of.....																																															
Gallstones.....																																															
Gangrene, Senile, of Foot.....																																															
Leg.....																																															
Gastric Ulcer.....																																															
Gastritis.....	2	3																																													
Goitre, Exophthalmic.....																																															
Heart Disease, Organic*.....																																															
Enlargement.....																																															
Fatty Degeneration.....																																															
Hypertrophy.....																																															
Valvular Disease.....	1																																														
Hemiplegia.....																																															

\* Not otherwise classified, and includes 6 congenital heart disease over 3 months.

TABLE VIII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Under 1.		1 and under 2.		2 to 3.		3 to 4.		4 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 and over.		Age not stated.		SEX.		TOTAL.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Hemorrhage, Cerebral.....																2	2	1	4	5	6	5	15	28	27	26	9	18	1					93	111	204			
Hemorrhage of Lungs (under 3 months).....	1	1																																					
General (under 3 months).....	2	2																																					
Unbilical (under 3 months).....	5	5																																					
Uterine (cause unknown).....																																							
Pulmonary (over 3 months, no T. B.).....																																							
Hepatitis.....																																							
Hernia*.....																																							
Femoral.....																																							
Inguinal.....																																							
Unbilical.....																																							
Hodgkin's Disease.....																																							
Homicide.....	1	1																																					
Icterus Neonatorum.....	5	2																																					
Indigestion, Acute (under 3 months).....	13	15																																					
Indigestion, Acute (over 3 months).....	16	5	3	1	2			1	1	1	1																												
Indigestion, Chronic (over 3 months).....	22	18	3	5	2																																		
Influenza.....	5	3	1	2																																			
Insanity*.....																																							
Chronic Delusional.....																																							
Dementia.....																																							
Dementia Paretic.....																																							
Mania, Acute.....																																							

\*Undefined.





TABLE VIII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Under 1.		1 and under 2.		2 to 3.		3 to 4.		4 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 and not stated.		SEX.		Total.		
	M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M. F.		M.	F.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.					
Malformations, Cleft-Palate.		1																																	1	1	1
Foramen Ovale, Patent.	28	14																																28	14	42	
Hydrocephalus.	2	1																																2	1	3	
Spina Bifida.	3	6																																3	6	9	
Imperforate Urethra.	1																																	1		1	
Mastoiditis.	1	1																																1		1	
Measles.	3	7	11	12	2		1	1	1	1	1	1	1	1		2																		6	3	9	
Meningitis.	14	7	4	4	2		1	2	2	4	1	1	2	1	2	1																		18	26	44	
Cerebro-Spinal.	6	7	5	10	4	2	2	3	1	6	9	1	3	8	2	4	2																	30	24	54	
Leptomeningitis.	1																																	1		1	
Pachymeningitis.																																		1		1	
Morphine Habit.																																		1		1	
Myelitis.																																		1		1	
Poliomyelitis, Acute, Anterior.																																		1		1	
Myocarditis.	1																																	1		2	
Myxedema.																																		11	17	28	
Necrosis of Femur.																																		1		1	
Neuritis.																																		1		1	
Old Age.																																		1		1	
Senile Dementia.																																		1		2	
Otitis Media.																																		67	103	170	
Ovarian Cyst.	2	1																																7	11	18	
Pancreatitis.																																		9	2	11	
Paralysis.																																		13	13	26	
Agitans.																																		15	27	42	
Infantile (Cause Unknown)																																		3	1	4	
Paraplegia.																																		2	2	4	
Paresis.																																		25	5	30	







TABLE VIII.—CAUSES OF DEATH, 1905.—Continued.

CAUSES OF DEATH.	Under 1.		1 and under 2.		2 to 3.		3 to 4.		4 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 and over.		Age not stated.		SEX.		TOTAL.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				
Syphilis.....																	1	1	3	2	2	1	1													7	4	11		
Hereditary.....	7	4	1	1																																	10	5	15	
Thrombosis, Cerebral.....								2																														1	1	2
Mesenteric.....																			1																		2	...	2	
of Iliac Veins.....																																					1	...	1	
Tonsillitis.....	1																																				1	...	1	
Tubercular Abscess of Abdomen.....																																					1	2	3	
Tubercular Abscess, Pelvis.....											1																										...	1	1	
Tuberculosis, General.....	3	1			2	1		1		1	1		2		5	3																					19	10	29	
of Glands of Neck.....	1									1																											2	1	3	
of Joints.....																																					...	1	1	
of Hip Joint.....	1									1				2	1																					3	4	7		
of Shoulder Joint.....																																					...	1	1	
of Kidneys.....																																					...	1	2	
Pulmonary.....	10	9	5	6	2	3		1	3	4	3	12	22	38	116	132	122	95	75	50	46	22	26	11	12	9	2										441	395	836	
Tuberculous Cystitis.....																																					2	...	2	
Enteritis.....	2	2	1		1						1		1		2	3						2															8	10	18	
Laryngitis.....																																					2	1	3	
Meningitis.....	17	18	15	12	4	3	2	4	7	4	1	1	1		1	2					3	1														56	47	103		
Peritonitis.....	3	2						2			1	1	2																								11	5	16	
Tumor of Brain*																																						4	4	8
Intestine.....																																					...	1	1	
Leg.....																																					...	1	1	
Liver.....																																					...	1	1	
Muscles, Chest and Lungs.....																																					...	1	1	
Omentum.....																																					...	1	1	
Typhoid Fever.....	1																																				...	48	36	84

\*Undefined.









TABLE IX.—CLASSIFICATION AND PERCENTAGE, 1905.—Continued.  
[CAUSES NUMBERED ACCORDING TO INTERNATIONAL CLASSIFICATION.]

NUMBER OF DEATHS IN EACH DIVISION OF THE STATE.										CAUSES OF DEATH.										PERCENTAGE OF DEATHS IN THE WHOLE STATE.									

[illegible]



...	3	...	27	...	1	13	...	1	45	67.	General Paralysis.....	...	.55	.25	...	.37	.14	...	2.05	...	...	.53	....
...	...	2	38	1	...	1	...	1	43	68.	Other Forms of Mental Alienation.....	...	.52	...	...	.20	.03	...	.27	2.89	.51	...	....
...	...	1	9	...	1	6	3	...	20	69.	Epilepsy.....	...	.24	...	...	.61	.17	.14	...	.68	...	.57	....
...	3	1	3	1	3	13	1	3	29	71.	Convulsions (under 5 years).....	...	.35	.74	.20	.37	.41	.27	.23	.25	.57	.53	....
...	...	1	1	...	...	...	...	1	73.	Chorea.....	...	.01	...	...	...	...	...	...	.08	...	...	....	
...	...	1	1	2	...	5	...	1	10	75.	Other Diseases of the Nervous System.....	...	.12	.25	...	.14	...	.55	.08	...	.57	....	
...	...	1	1	...	1	8	...	...	11	76.	Diseases of the Ear.....	...	.13	...	...	.23	.14	...	.08	...	...	.18	....
III.																							
DISEASES OF THE CIRCULATORY SYSTEM.																							
...	...	...	3	...	...	7	...	...	10	77.	Pericarditis.....	...	.12	...	...	.20	...	...	...	.23	...	...	....
3	1	...	6	7	1	7	50	1	3	79	78.	Acute Endocarditis.....	.96	.74	.20	1.43	.96	.27	.53	1.52	...	.18	1.01
24	40	17	36	119	11	68	223	28	37	603	79.	Organic Diseases of Heart.....	7.34	9.09	5.70	6.42	9.34	3.02	9.04	9.14	9.77	7.05	8.11
2	3	1	11	...	4	15	2	1	39	80.	Angina Pectoris.....	...	.48	.25	.41	.43	.55	...	.84	...	.57	.53	.68
2	1	1	4	10	...	4	30	...	52	81.	Diseases of the Arteries.....	...	.63	...	...	.87	.55	...	.76	1.02	.57	.18	.68
1	1	1	1	1	1	3	11	...	2	82.	Embolism and Thrombosis.....	...	.27	.49	...	.32	.41	.27	.08	.25	.57	.18	.34
...	...	...	...	...	...	2	...	...	2	83.	Diseases of the Veins.....	...	.02	...	...	.06	...	...	...	...	...	...	....
...	...	...	...	...	...	1	...	...	1	84.	Diseases of the Lymphatic System.....	...	.01	...	...	.03	...	...	.01	...	...	...	....
...	...	...	...	...	2	1	...	1	4	85.	Hemorrhages.....	...	.05	.25	...	.03	.27	...	...	...	...	...	....
IV.																							
DISEASES OF THE RESPIRATORY SYSTEM.																							
...	...	...	...	...	...	1	...	...	1	87.	Diseases of the Nasal Fossae.....	...	.01	...	...	.03	...	...	...	...	...	...	....
...	...	...	...	...	1	...	...	...	1	2	88-1.	Diseases of the Larynx.....	...	.02	.25	...	.14	...	...	...	...	...	....
...	1	1	3	1	...	4	3	...	13	88-2.	Other Diseases of the Larynx.....	...	.16	...	.61	.12	...	.27	.23	...	.57	.18	....
...	...	...	...	...	...	1	...	...	1	89.	Diseases of the Thyroid Body.....	...	.01	...	...	.03	...	...	...	...	...	...	....
7	20	3	6	23	23	22	64	11	61	85.	Acute Bronchitis.....	...	2.25	1.47	2.24	1.84	3.02	6.32	1.75	1.52	1.72	3.52	2.36









## VIII.

## DISEASES OF THE SKIN AND CELLULAR TISSUE.

2	1	...	2	...	6	2	1	2	16	142.	Gangrene.....	.19	.49	.20	.06	.82	.....	.15	.....	.18	.68
...	...	1	...	1	...	2	...	4	144.	Acute Abscess, Phlegmon.....	.05	.....	.....	.06	.....	.27	.....	.....	.57	.....	
...	...	...	1	...	2	...	3	145.	Other Diseases of the Skin.....	.04	.....	.....	.....	.06	.....	.....	.....	.08	.....	.....	
IX.																					

## IX.

## DISEASES OF THE ORGANS OF LOCOMOTIONS.

...	2	...	2	...	13	...	1	18	146.	Non-tuberculous Diseases of the Bones.....	.22	.25	.....	.37	.....	.....	.....	.15	.....	.35	.....
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## X.

## MALFORMATION.

.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	..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## XI.

## EARLY INFANCY.

8	11	2	9	16	11	16	86	4	6	169	151-1.	Premature Birth.....	2.06	1.47	.81	2.47	2.20	3.02	1.21	2.28	1.15	1.91	2.70
10	14	4	9	22	13	20	61	26	7	186	151-2.	Congenital Debility.....	2.26	1.72	5.30	1.76	2.75	3.57	1.68	2.28	2.30	2.47	3.38
...	4	...	3	2	2	7	7	5	30	152.	Other Diseases of Early Infancy.....	.37	.....	1.02	.20	.96	.55	.15	.76	.....	.71	.....	

## XII.

## OLD AGE.

9	20	4	22	49	4	10	48	7	15	188	154.	Senile Dehility.....	2.29	3.69	1.43	1.38	1.37	1.10	3.72	5.58	2.30	3.53	3.04
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## XIII.

## EXTERNAL CAUSES.

1	1	2	2	5	10	155.	Suicide by Poison.....	.12	.14	.15	.51	.18
				4	4	156.	Suicide by Asphyxia.....	.05	.12			
1	1	1	1	4	7	157.	Suicide by Hanging.....	.09	.12	.08		.18 .34

TABLE IX.—CLASSIFICATION AND PERCENTAGE, 1905.—Concluded.

[CAUSES NUMBERED ACCORDING TO INTERNATIONAL CLASSIFICATION.]

NUMBER OF DEATHS IN EACH DIVISION OF THE STATE.										PERCENTAGE OF DEATHS IN EACH DIVISION.									
CAUSES OF DEATH.										Percentage in the Whole State.									
Bristol County.	Kent County.	Newport County Towns.	Newport City.	Providence County Towns.	Pawtucket.	Central Falls.	Providence City.	Woonsocket.	Washington County.										
1	1	1	1	1	4	2	10	1	8	158.	Suicide by Drowning.....	.10	.25	.06	.30	.15	.51	.18	.34
...	1	2	1	1	2	10	19	1	16	159.	Suicide by Firearms.....	.19	.25	.29	.15	.23	.25	.18	...
...	1	1	3	1	3	8	10	...	8	160.	Suicide by Cutting Instruments.....	.10	...	.09	.23	.25	.18	...	...
...	...	...	...	...	...	1	.01	...	1	161.	Suicide by Jumping from High Places.....	.01	...	.03	...	...	...	...	...
...	...	1	...	...	1	...	.01	...	1	162.	Suicide by Crushing.....	.01	...	...	.08	...	...	...	...
...	1	1	1	...	1	...	.04	...	3	166-1.	Accidental Gunshot Wound.....	.04	...	.03	.80	...	.08	...	...
...	...	...	...	...	...	5	.06	...	5	166-2.	Accidental Injury by Machinery.....	.06	...	.14	...	...	...	...	...
...	5	1	2	1	2	18	.44	1.23	36	166-4.	Railroad Accidents and Injuries.....	.44	1.23	.41	.27	.15	.25	.88	...
...	1	1	4	...	...	5	.17	.74	14	166-5.	Injuries by Horses and Vehicles.....	.17	.74	.14	...	.30	.25	.18	...
5	6	5	8	13	6	7	1.39	.49	2114	166-6.	Other Accidental Traumatism.....	1.39	.49	.81	.96	1.65	2.03	2.87	1.05
1	2	1	2	3	1	4	.28	.25	23	167.	Burns and Scalds.....	.28	.25	.20	.55	.27	.51	.57	.35
...	...	...	...	...	...	1	.13	.25	11	169.	Sunstroke.....	.13	.25	.20	.14	...	...	...	...
1	...	...	...	...	...	...	.01	...	1	170.	Freezing.....	.01	...	...	...	.15	...	...	.34
...	...	2	...	...	...	1	.05	.25	4	171	Electric Shock.....	.05	.25	.03	...	.15	4.02	...	...

3	5	7	5	14	1	2	17	2	1	57	172.	Accidental Drowning.....	.69	.25	.41	.49	.27	.27	1.06	1.27	.....	.88	1.01
.....	.....	.....	.....	.....	.....	.....	11	.....	.....	11	174.	{ Absorption of Deleterious Cases (non- i    suffocated)..... {	.13	.....	.....	.32	.....	.....	.....	.....	.....	.....	.....
.....	1	.....	.....	2	.....	1	5	1	.....	10	175.	Other Acute Poisoning.....	.12	.....	.20	.14	.....	.14	.....	.15	.....	.18	.....
1	2	.....	.....	2	.....	.....	5	2	.....	12	176-1.	Other External Violence (suffocation).....	.15	.....	.14	.14	.....	.....	.15	.....	.....	.35	.....
3	2	2	1	14	4	1	28	1	1	57	176-2.	Injuries at Birth.....	.69	.25	.20	.81	.14	1.10	1.06	.25	1.15	.35	1.01
.....	.....	.....	.....	.....	.....	.....	5	1	.....	6	176-3	Homicide.....	.07	.....	.20	.14	.....	.....	.....	.....	.....	.....	.....
XIV.																							
ILL-DEFINED DISEASES.																							
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	179-1.	Ill-defined Causes of Death.....	.13	.....	.....	.32	.....	.....	.....	.....	.....	.....	.....
2	1	1	1	6	2	2	21	1	.....	37	179-2.	Cause Unknown.....	.45	.....	.20	.60	.27	.55	.46	.25	.57	.18	.68

TABLE X.—*According to International Classification.*

CAUSES OF DEATH.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.
I.								
GENERAL DISEASES.....	592	902	748	836	935	1,115	926	1,067
II.								
DISEASES OF THE NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE.....	130	161	182	185	221	223	217	245
III.								
DISEASES OF THE CIRCULATORY SYSTEM.....	29	40	66	44	71	72	65	76
IV.								
DISEASES OF THE RESPIRATORY SYSTEM.....	94	116	151	213	234	267	219	272
V.								
DISEASES OF THE DIGESTIVE SYSTEM.....	79	137	205	178	194	238	203	336
VI.								
DISEASES OF THE GENITO-URINARY SYSTEM AND ITS ADNEXA.....	10	8	13	12	25	21	20	22
VII.								
PUERPERAL STATE.....	12	9	15	24	21	31	25	22
VIII.								
DISEASES OF THE SKIN AND CELLULAR TISSUE.....	7	5	12	12	17	12	6	21
IX.								
DISEASES OF THE ORGANS OF LOCOMOTION.....	3	1	2	7	6	6	9	5
X.								
MALFORMATIONS.....	3	7	11	5	12	14	14	15
XI.								
EARLY INFANCY.....	10	34	63	33	52	62	56	73
XII.								
OLD AGE.....	58	67	84	76	119	114	117	116
XIII.								
EXTERNAL CAUSES.....	63	56	74	61	82	87	89	135
XIV.								
ILL-DEFINED DISEASES.....	160	185	220	356	336	354	304	281
TOTAL NUMBER OF DEATHS.....	1,250	1,728	1,846	2,042	2,325	2,616	2,270	2,686

TABLE X.—*International Classification.*—Continued.

1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
1,255	1,042	1,467	1,480	1,655	1,259	1,101	1,065	1,433	1,278	1,199	1,404	1,635	1,635	1,482	1,504	1,874	1,888	1,830
287	231	282	296	286	294	320	277	320	342	379	446	512	434	454	444	471	492	534
112	115	103	128	99	117	116	117	130	123	148	190	193	220	192	173	192	173	209
282	251	314	341	302	292	264	265	280	288	341	379	390	414	591	530	417	523	514
287	285	277	351	316	275	285	292	301	333	347	628	508	505	549	476	513	395	381
28	24	34	23	24	24	43	37	40	41	52	75	80	83	75	66	93	89	98
26	27	35	37	31	31	34	34	37	44	52	45	46	60	53	48	46	43	45
29	16	17	18	21	21	29	21	14	19	28	24	30	29	29	35	23	30	32
15	8	9	7	5	5	6	12	11	15	5	11	18	15	16	27	15	10	20
13	11	13	8	10	12	17	16	15	14	15	17	15	17	15	11	26	23	19
85	76	81	74	93	77	90	70	58	91	73	131	219	196	155	97	94	88	91
132	143	161	193	152	178	188	206	217	204	232	233	254	223	216	241	213	222	220
108	107	125	116	103	132	122	115	122	139	125	146	156	150	171	153	162	159	127
268	255	289	288	308	253	274	385	404	257	348	518	347	248	319	311	311	297	352
2,927	2,591	3,207	3,360	3,405	2,970	2,889	2,912	3,382	3,238	3,344	4,247	4,403	4,229	4,317	4,116	4,450	4,441	4,472



TABLE X.—*International Classification.*—Continued.

CAUSES OF DEATH.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.
I.										
GENERAL DISEASES.....	1,879	1,829	1,729	1,809	1,800	1,851	2,056	2,301	2,288	2,097
II.										
DISEASES OF THE NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE.....	571	609	630	660	671	658	737	803	827	706
III.										
DISEASES OF THE CIRCULATORY SYSTEM....	243	274	256	336	294	361	336	414	449	474
IV.										
DISEASES OF THE RESPIRATORY SYSTEM.....	574	565	558	648	597	764	786	833	869	885
V.										
DISEASES OF THE DIGESTIVE SYSTEM.....	487	508	672	608	690	613	790	804	880	871
VI.										
DISEASES OF THE GENITO-URINARY SYSTEM AND ITS ADNEXA.....	111	97	111	184	167	208	210	212	241	250
VII.										
THE PUERPERAL STATE .....	51	60	50	60	51	47	41	54	51	44
VIII.										
DISEASES OF THE SKIN AND CELLULAR TISSUE..	18	39	24	32	46	43	30	38	45	36
IX.										
DISEASES OF THE ORGANS OF LOCOMOTION..	15	11	25	26	32	34	26	23	15	18
X.										
MALFORMATIONS.....	13	26	21	19	22	15	15	18	20	19
XI.										
EARLY INFANCY.....	121	120	134	184	154	167	194	245	281	250
XII.										
OLD AGE.....	273	247	283	275	293	267	276	278	290	227
XIII.										
EXTERNAL CAUSES.....	157	182	215	185	221	201	213	224	216	243
XIV.										
ILL-DEFINED DISEASES.....	316	449	366	256	103	160	139	93	122	139
TOTAL NUMBER OF DEATHS.....	4,829	5,016	5,074	5,282	5,141	5,389	5,849	6,340	6,594	6,259

TABLE X.—*International Classification.*—Continued.

1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	TOTAL AND PER- CENTAGE FOR 50 YEARS, 1853 1902	
2,420	2,153	2,373	2,280	2,166	2,237	2,093	2,035	1,820	2,117	2,578	2,118	2,121	2,553	2,097	2,191	82,757	34.74
789	763	846	883	924	941	891	935	902	857	928	910	888	830	879	824	26,994	11.33
419	489	510	540	481	538	560	571	554	656	715	720	750	785	788	812	14,253	5.98
991	945	1,120	1,214	1,028	1,068	1,040	929	825	990	1,343	1,058	1,040	1,205	1,206	1,305	29,214	12.26
1,020	976	1,126	1,156	1,035	1,098	1,191	1,038	1,234	1,243	1,423	1,365	1,124	1,216	1,106	1,123	30,876	12.96
281	289	303	357	391	434	484	461	542	564	593	591	629	682	706	718	8,870	3.72
45	35	77	57	72	55	54	60	71	55	99	95	72	60	90	98	2,289	.96
48	31	35	25	43	20	38	20	35	12	25	28	19	63	26	23	1,287	.54
25	20	17	14	19	23	22	18	12	18	9	7	14	18	15	18	712	.30
25	28	16	24	23	32	32	30	35	46	47	57	79	70	78	60	1,039	.44
266	326	282	277	439	417	418	412	283	315	333	333	482	440	391	385	8,755	3.68
198	185	256	183	187	282	293	253	205	228	268	234	261	202	196	188	10,321	4.33
271	273	331	287	288	330	336	315	354	331	429	408	417	472	457	419	9,612	4.03
136	107	104	143	64	60	52	33	33	26	33	42	59	46	72	48	11,263	4.73
6,934	6,620	7,396	7,440	7,160	7,535	7,504	7,110	6,905	7,458	8,823	7,966	7,955	8,642	8,107	8,212	238,242	100.00

TABLE X.—*International Classification.*—Continued.

British Numbers.	CAUSES OF DEATH.							
		1853.	1854.	1855.	1856.	1857.	1858.	1859.
	I.							
	GENERAL DISEASES.							
1	Typhoid Fever.....	25	39	63	53	76	42	70
4	Intermittent Fever and Malarial Cachexia.....	1	11	2	4	1	4	1
5	Smallpox.....	14	11	5	9	6	75	5
6	Measles.....	15	15	3	2	6	75	3
7	Scarlet Fever.....	108	40	71	208	147	234	71
8	Whooping Cough.....	2	14	4	19	9	13	46
9	Membranous Croup.....							
9a	Diphtheria.....	2	1				6	20
10	Grippe (Influenza).....	2	1	4		15	6	2
12	Cholera, Asiatic.....		176					
13	Cholera Nostras (Cholera Morbus).....	15	15	7	7	3	2	6
14	Dysentery.....	88	118	71	51	65	61	53
16	Yellow Fever.....					1		
18	Erysipelas.....	3	8	15	12	14	20	15
19	Other Epidemic Diseases.....						1	
20	Purulent Infection and Septicæmia.....							
21	Glanders and Farcy.....							
22	Malignant Pustule and Charbon (Anthrax).....			1			1	6
23	Rabies.....	1			1			1
26	Tubercle of Larynx.....							
27	Tubercle of Lungs.....	243	349	345	305	400	426	436
28	Tubercle of Meninges.....	33	40	58	47	52	65	56
29	Tubercle, Abdominal.....					4	6	2
30	Pott's Disease.....							
31	Abscess, Cold and by Congestion.....							
32	White Swelling.....							
33	Tubercle of Other Organs.....							
34	Tubercle, Generalized.....		1					
35	Scrofula.....	6	5	8	7	11	11	8
36	Syphilis.....	1		1	2		3	5
37	Blennorrhagia of the Adult.....							
39	Cancer of the Buccal Cavity.....			1		1		
40	Cancer of Stomach and Liver.....		3	5	4	9	10	
41	Cancer of the Peritoneum, Intestines, and Rectum.....						3	
42	Cancer of the Genital Organs of the Female.....	2	1	3	5	4	3	
43	Cancer of Breast.....	1	2	1	4	4	6	
44	Cancer of the Skin.....			1	1			
45	Cancer of Other Organs.....	11	13	15	15	19	22	43
46	Other Tumors (Tumors of Female Genital Organs excepted) Non-Cancerous.....							
47	Rheumatism, Acute Articular.....							
48	Rheumatism, Chronic, and Gout.....	2	1	2	4	7	4	7
49	Scurbutus (Scurvy).....							
50	Diabetes.....	1		3	3	3	3	3
51	Goitre, Exophthalmic.....							
52	Addison's Disease.....							
53	Leukæmia.....							
54	Anæmia and Chlorosis.....	2	7	4	5	6	12	2
55	Other General Diseases.....	18	28	47	58	53	55	43
56	Alcoholism, Acute and Chronic.....	14	10	7	13	25	21	22
57	Saturnism (Lead Poisoning).....							
59	Other Chronic Poisonings.....							
	II.							
	DISEASES OF THE NERVOUS SYSTEM AND THE ORGANS OF SPECIAL SENSE.							
60	Encephalitis.....	28	19	26	19	25	42	20
61	Meningitis, Simple.....							
61a	Meningitis, Epidemic Cerebro-Spinal.....							
62	Locomotor Ataxia, Progressive.....							
63	Other Diseases of the Spinal Cord.....							
64	Cerebral Congestion and Hemorrhage.....	22	25	33	39	42	43	51
65	Cerebral Softening.....							
66	Paralysis, without specified cause.....	21	6	20	9	21	21	28
67	Paralysis, General.....							
68	Other forms of Mental Alienation.....	4	6	8	14	16	14	16
69	Epilepsy.....	4		8	6	8	9	6
71	Convulsions of Children.....	29	68	53	64	57	57	50
72	Tetanus.....		3	3	4	6	1	3
73	Chorea.....					1		2
74a	Neuralgia.....							
74b	Other Diseases of the Nervous System.....	31	34	31	30	45	36	41
75	Diseases of the Eye and its Adnexa.....							
76	Diseases of the Ear.....							

TABLE X.—*International Classification.*—Continued.

1800.	1801.	1802.	1803.	1804.	1805.	1806.	1807.	1808.	1809.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.
67 1 9 8 64 46	94 3 5 11 57 45	84 ... 6 12 47 15	128 ... 6 36 91 24	116 1 10 26 266 31	233 1 22 16 255 56	152 2 2 15 28 28	126 ... 1 12 14 12	86 1 2 20 93 26	106 3 3 19 286 48	157 2 6 26 75 39	130 1 12 6 66 25	190 1 25 6 54 27	172 1 28 63 287 32	121 ... 8 7 462 45	150 ... 4 2 185 31	123 ... 1 4 80 48	123 1 4 62 32	136 1 1 81 86 54
67 2	140 3	81 3	155 6	160 5	82 1	64 47	31 1	20 2	33 ...	33 ...	57 ...	48 1	45 1	59 2	38 6	159 ...	492 1	435 ...
7 49	12 96	6 52	9 262	9 110	14 188	25 148	8 118	10 52	11 74	11 55	13 43	18 83	13 36	8 38	8 36	13 50	20 52	6 40
26 1	14 ...	11 1	14 ...	28 2	21 ...	16 ...	25 ...	25 ...	14 1	21 ...	18 ...	23 ...	39 1	26 ...	21 1	18 ...	21 2	17 3
...	...	...	3 1	...	...	...	...	...	2 ...	1 ...	...	1 ...	1 ...	1 ...	1 ...	2 ...	2 ...	3 ...
505 52 1	523 63 3	513 50 3	512 47	498 49 3	547 7	526 56 2	563 41 2	517 57 2	555 76 10	577 51 4	535 71 5	600 44 5	584 52 7	536 51 3	657 57 4	660 68 5	665 55 10	685 70 6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9 2	14 5	14 3	13 2	14 5	12 2	4 5	10 5	9 3	18 ...	16 5	24 6	23 9	18 3	21 7	8 ...	18 ...	25 ...	27 ...
11 1 3 5 1 23	12 3 14 4 1 24	...	...	...	...	7 ...	8 ...	5 ...	10 ...	11 ...	15 ...	11 ...	21 ...	17 ...	12 ...	18 ...	25 ...	15 ...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16 ...	6 ...	4 ...	7 ...	7 ...	8 ...	10 ...	7 ...	11 ...	17 ...	17 ...	13 ...	21 ...	17 ...	22 ...	26 ...	14 ...	24 ...	16 ...
8 ...	8 ...	2 ...	4 ...	6 ...	6 ...	6 ...	1 ...	11 ...	6 ...	8 ...	5 ...	7 ...	8 ...	5 ...	11 ...	5 ...	9 ...	4 ...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5 52 26	3 62 30	4 47 22	12 32	4 42 27	3 47 10	3 42 7	2 41 10	4 11 10	4 52 18	2 56 17	6 58 23	4 69 23	3 84 14	2 79 22	4 90 17	3 78 21	1 89 12	2 64 15
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
41 ...	43 ...	36 ...	54 ...	49 2	39 5	46 1	52 4	40 3	54 1	42 3	44 14	57 23	65 62	23 16	28 13	76 4	78 3	78 3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
51 32	57 40	43 36	62 31	54 42	55 45	56 36	72 52	57 54	69 48	64 66	77 79	58 67	67 67	70 86	67 99	95 70	109 72	102 86
11 4 70 5	13 11 70 5	7 6 6 6	10 6 7 8	15 3 73 4	20 7 73 6	13 4 83 3	14 12 68 3	13 5 79 3	14 5 85 2	18 4 10 5	16 10 116 5	26 13 97 8	19 15 16 2	13 16 98 8	32 20 100 5	19 12 89 2	12 19 83 5	22 8 112 8
31 ...	48 ...	42 ...	40 ...	54 ...	36 ...	52 ...	43 ...	38 ...	48 ...	55 ...	51 ...	78 ...	74 ...	67 ...	52 ...	70 ...	81 ...	62 ...





TABLE X.—*International Classification.*—Continued.

1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	TOTAL AND PER- CENTAGE FOR 50 YEARS, 1853-1902.	
224 71 11 207 44 191 7 30 77 31 24 2 1 800 50 13 11 58 60 17 25 21 1 73 33 2 13 13 178 16 14 119 22 211 156 43 154 9 2 81	135 40 29 51 77 184 26 71 28 8 1 2 727 58 11 1 60 17 30 19 4 56 25 4 261 37 22 99 22 210 113 22 16 154 9 2 81	107 42 1 16 70 211 36 87 22 14 1 4 852 72 11 1 49 17 30 14 5 50 39 4 6 271 25 19 121 9 219 116 238 137 136 1 46	149 31 1 33 77 102 28 59 26 1 1 4 740 66 11 1 50 14 28 18 2 61 32 4 16 271 29 20 116 219 116 22 124 131 30 21 137 4 79	133 10 4 67 25 89 336 31 42 31 11 1 722 53 8 26 47 16 26 14 2 59 39 26 3 254 263 47 1 276 289 136 13 15 72 39 83	129 30 9 193 23 157 85 23 41 27 3 1 705 51 11 8 68 23 42 27 11 36 41 29 31 24 11 8 4 34 39 1 1 120	160 29 2 123 129 133 166 23 41 27 3 1 799 846 73 17 1 63 59 78 29 27 48 41 24 18 8 4 34 45 1 1 106	125 29 54 107 59 283 115 19 31 27 3 1 799 846 73 17 1 63 59 78 29 47 38 15 10 25 36 20 8 3 4 404 455 402 445 473 415 432 404 31 102 66 82 103 17 14 25 43 41 2 1 1 106	113 42 33 53 59 283 115 18 27 3 1 4 846 73 17 1 59 78 29 47 38 15 10 25 36 20 8 3 4 404 455 402 445 473 415 432 404 31 102 66 82 103 17 14 25 43 41 2 1 1 106	66 44 18 29 56 231 75 16 14 9 1 2 765 823 84 89 31 5 1 5 100 93 121 109 122 134 150 134 41 401 1,037 759 168 2,462 13 19 12 38 31 26 10 9 7 37 22 40 39 1 1 187 155 191 192 160 79 32 33 53 82 735 35 3 1 13 27 19 17 10	76 31 30 21 86 112 113 109 150 120 99 107 836 793 86 103 38 36 31 1 9 1 5 8 13 10 12 10 12 15 14 16 20 21 23 17 27 18 22 28 22 26 1,161 625 456 20 92 1,672 401 1,037 759 168 2,462 44 26 465 605 3 905 14 5 16 522 4,145 1,198 5 11 7 1,937 2,590 735 35 66 8,184 51 3,345 44 1,399 663 4,590 233 27 1 8 40	91 29 1 5 25 133 60 164 8 50 120 99 107 836 793 86 103 38 36 31 1 9 1 5 8 13 10 12 10 12 15 14 16 20 21 23 1 5 2 4 8 12 1								



TABLE X.—*International Classification.*—Continued.

Registration Numbers.	CAUSES OF DEATH.	1853.	1854.	1855.	1856.	1857.	1858.	1859.
III.								
DISEASES OF THE CIRCULATORY SYSTEM.								
77	Pericarditis.....		2	1	1	2		1
78	Endocarditis.....							
79	Organic Diseases of the Heart.....	28	38	61	41	63	66	61
80	Angina Pectoris.....			2		2		1
81	Diseases of the Arteries (Atheroma, Aneurism, etc.).....	1		1	1		1	1
82	Embolism and Thrombosis.....							
83	Diseases of the Veins (Varices, Hemorrhoids, Phlebitis).....							
84	Diseases of the Lymphatic System (Lymphangitis, etc.).....							
85	Hemorrhages.....			1	1	4	5	1
IV.								
DISEASES OF THE RESPIRATORY SYSTEM.								
87	Diseases of the Nasal Fosse.....							
88	Diseases of the Larynx.....	29	44	49	67	72	74	62
89	Diseases of the Thyroid Body.....							
90	Bronchitis, Acute.....	2	3	4	5	7	13	9
91	Bronchitis, Chronic.....							
93	Pneumonia.....	48	54	79	120	141	166	125
94	Pleurisy.....	7	10	12	13	10	12	18
95	Pulmonary Congestion and Apoplexy.....							
96	Gangrene of Lung.....							
97	Asthma.....	1	2	2	3	2	2	2
98	Pulmonary Emphysema.....							
99	Other Diseases of the Respiratory System.....	7	3	5	5	2		3
V.								
DISEASES OF THE DIGESTIVE SYSTEM.								
100	Diseases of the Mouth and its Adnexa.....	1	4	5	1	3	9	3
101	Diseases of the Pharynx.....							
102	Diseases of the Esophagus.....							
103	Ulcer of the Stomach.....							
104	Other Diseases of the Stomach (Cancer excepted).....	5	8	7	19	16	9	12
105	Diarrhea and Enteritis (under two years).....	39	68	91	77	70	93	61
105a	Diarrhea and Enteritis, Chronic.....							
106	Diarrhea and Enteritis (two years and over).....	16	35	64	47	65	65	70
107	Parasites, Intestinal.....		1	1		1	1	2
108	Hernias and Intestinal Obstructions.....	1	2	2			5	2
109	Other Diseases of the Intestines.....	4	4	4		4	4	5
109a	Diseases of the Anus and Fecal Fistula.....						1	
110	Acute Yellow Atrophy of Liver.....							
112	Cirrhosis of the Liver.....							
113	Biliary Calculi.....							
114	Other Diseases of the Liver.....	7	8	8	7	21	35	29
115	Diseases of the Spleen.....		2					
116	Peritonitis, Simple (Puerperal excepted).....	4	2	13	17	5	10	13
117	Other Diseases of the Digestive System (Cancer Tubercle excepted).....							
118	Appendicitis and Abscess of the Iliac Fossa.....	2	3	10	10	9	6	6
VI.								
DISEASES OF THE GENITO-URINARY SYSTEM AND ITS ADNEXA.								
119	Nephritis, Acute.....							3
120	Bright's Disease.....	1						
121	Other Diseases of the Kidneys and their Adnexa.....	1	1	7	5	15	8	12
122	Calculi of the Urinary Tract.....		1					1
123	Diseases of the Bladder.....	3	1	3	2	3	2	4
124	Diseases of the Urethra, Urinary Abscess, etc.....							
125	Diseases of the Prostate.....		1			5	2	
126	Non-Veneral Diseases of the Male Genital Organs.....							
129	Tumor, Uterine, Non-Cancerous.....							
130	Other Diseases of the Uterus.....	5	4	1	2	2	3	
131	Cysts and other Tumors of the Ovary.....			2	3		4	
132	Other Diseases of the Female Genital Organs.....							
133	Non-puerperal Diseases of the Breast.....							



TABLE X.—*International Classification.*—Continued.

Bertillon Numbers.	CAUSES OF DEATH.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
	III.									
	DISEASES OF THE CIRCULATORY SYSTEM.									
77	Pericarditis.....					17		10	21	29
78	Endocarditis.....									
79	Organic Diseases of the Heart.....	202	231	264	245	308	290	339	297	358
80	Angina Pectoris.....							5	9	1
81	Diseases of the Arteries (Atheroma, Aneurism, etc.).....	1	2	2	2	8	3	4	2	5
82	Embolism and Thrombosis.....	3	4	5	5				3	5
83	Diseases of the veins (Varices, Hemorrhoids Phlebitis).....	2							1	3
84	Diseases of the Lymphatic System (Lymphan- gitis, etc.).....									
85	Hemorrhages.....	1	6	3	4	3	1	3	3	3
	IV.									
	DISEASES OF THE RESPIRATORY SYSTEM.									
87	Diseases of the Nasal Fosse.....									
88	Diseases of the Larynx.....	98	74	107	84	76	91	103	99	121
89	Diseases of the Thyroid Body.....									
90	Bronchitis, Acute.....	67	94	86	101	29	81	113	143	153
91	Bronchitis, Chronic.....					82	37	55	31	23
93	Pneumonia.....	311	364	327	344	400	363	465	481	488
94	Pleurisy.....	13	17	9	8	13	5	7	12	15
95	Pulmonary Congestion and Apoplexy.....									
96	Gangrene of Lung.....									
97	Asthma.....	13	11	16	9	13	10	21	13	20
98	Pulmonary Emphysema.....					1			2	
99	Other Diseases of the Respiratory System.....	12	14	20	12	34	10		5	13
	V.									
	DISEASES OF THE DIGESTIVE SYSTEM.									
100	Diseases of the Mouth and its Adnexa.....	1		1	2	2	2			
101	Diseases of the Pharynx.....		1	2			1	1	1	8
102	Diseases of the Esophagus.....									
103	Ulcer of the Stomach.....									
104	Other Diseases of the Stomach (Cancer excepted).....	30	28	39	44	51	43	51	59	68
105	Diarrhea and Enteritis (under two years).....	175	255	254	354	267	367	308	421	369
105a	Diarrhea and Enteritis, Chronic.....									
106	Diarrhea and Enteritis (two years and over).....	73	95	107	146	155	149	115	135	164
107	Parasites, Intestinal.....	1		1						
108	Hernias and Intestinal Obstructions.....	14	8	15	16	10	16	14	16	13
109	Other Diseases of the Intestines.....	2	9	6	6	21	7	10	11	12
109a	Diseases of the Anus and Fecal Fistula.....									
110	Acute Yellow Atrophy of Liver.....									
112	Cirrhosis of the Liver.....					15		5	16	17
113	Biliary Calculi.....			1	4	1		1		2
114	Other Diseases of the Liver.....	52	58	45	62	35	55	56	55	67
115	Diseases of the Spleen.....						2		1	1
116	Peritonitis, Simple (Puerperal excepted).....	24	24	27	30	40	40	35	59	66
117	Other Diseases of the Digestive System (Cancer and Tubercle excepted).....									
118	Appendicitis and Abscess of the Iliac Fossa.....	9	9	10	8	11	8	17	13	15
	VI.									
	DISEASES OF THE GENITO-URINARY SYSTEM AND ITS ADNEXA.									
119	Nephritis, Acute.....	61	56	54	44	93	90	143	140	130
120	Bright's Disease.....	20	35	25	44	38	39	25	24	39
121	Other Diseases of the Kidneys and their Adnexa.....	1		1		1		1		
122	Calculi of the Urinary Tract.....	12	9	11	14	19	17	20	25	20
123	Diseases of the Bladder.....			2			3	1	1	1
124	Diseases of the Urethra, Urinary Abscess, etc.....			1						
125	Diseases of the Prostate.....	4	4	1	3	7	4	4	8	7
126	Non-Venereal Diseases of the Male Genital Organs.....									
129	Tumor, Uterine, Non-Cancerous.....							4	3	8
130	Other Diseases of the Uterus.....		7	3	6	20	2	2	8	1
131	Cysts and Other Tumors of the Ovary.....					6	12	8	1	5
132	Other Diseases of the Female Genital Organs.....									
133	Non-puerperal Diseases of the Breast.....									

TABLE X.—*International Classification.*—Continued.

1886.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	TOTAL AND PER- CENTAGE FOR 50 YEARS, 1853-1902.		
23	29	27	33	19	8	10	8	12	13	8	14	8	17	14	8	10	10	333	.14	
400	413	362	429	468	485	411	449	458	466	479	512	512	531	609	608	609	603	12,500	.23	
9	11	8	7	16	12	15	24	19	29	28	28	33	30	35	37	33	39	331	.14	
6	7	8	5	3	4	4	7	6	4	2	5	13	10	19	33	60	52	169	.07	
4	5	7	9	2	12	7	2	...	9	1	20	26	13	19	18	15	22	163	.07	
...	2	1	2	1	4	...	2	3	2	...	2	3	3	6	2	3	2	48	.02	
7	7	6	4	1	1	5	3	4	1	3	3	11	2	1	...	1	1	6	.00	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	149	.06	
96	86	88	70	101	57	44	39	41	32	12	23	31	37	23	23	8	15	3,436	.00	
201	214	234	213	257	263	201	239	237	181	195	194	248	161	208	222	191	185	4,726	.00	
27	46	41	34	51	52	53	35	39	45	41	47	47	71	51	43	45	44	908	.38	
508	483	569	568	655	776	665	685	669	635	542	686	966	742	715	870	898	996	18,303	.768	
18	23	18	26	34	22	24	38	32	18	19	14	21	24	18	26	29	31	800	.34	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	.00	
14	13	21	24	11	13	18	22	18	15	11	20	20	12	15	13	20	25	501	.21	
4	3	2	4	1	4	3	2	3	2	1	1	7	4	4	4	4	4	44	.02	
11	17	18	6	10	27	20	8	1	1	4	5	2	3	5	2	2	3	486	.20	
...	2	9	2	5	6	2	...	...	...	...	...	2	4	6	2	1	...	141	.06	
4	5	...	5	...	...	...	...	...	...	...	...	4	2	6	6	5	3	77	.03	
...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	3	.00	
61	75	73	57	67	64	62	85	67	81	93	79	59	15	12	13	8	19	40	.02	
507	470	613	572	655	650	614	597	659	539	579	606	773	79	79	96	149	158	1,974	.83	
...	...	...	...	...	...	...	...	...	...	...	...	...	11	11	...	...	...	22	.01	
131	124	127	136	182	148	147	158	123	114	119	140	104	121	146	139	100	102	5,118	.24	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	43	.02	
14	12	15	22	24	26	19	26	15	22	36	24	50	66	45	47	48	41	654	.27	
10	8	15	15	20	74	46	41	85	76	87	32	5	7	14	14	14	12	787	.33	
1	1	1	1	1	1	1	2	2	2	1	1	2	2	1	4	...	...	21	.01	
19	27	28	31	28	40	34	38	45	42	41	46	45	9	6	5	5	5	20	.01	
2	2	4	2	3	4	2	4	2	5	10	4	3	4	12	12	14	17	74	.03	
47	52	48	48	58	52	57	43	65	16	50	46	45	34	26	15	13	16	2,066	.87	
1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	3	3	2	28	.01	
60	63	63	68	62	74	31	23	23	12	11	19	23	20	16	24	17	17	1,259	.53	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	30	20	18	21	16	17	24	29	25	43	28	34	42	51	63	44	60	1,115	.47	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	706	.30	
192	176	213	229	220	258	266	314	369	379	457	463	390	446	461	544	537	534	235	.10	
21	34	17	18	41	44	47	34	27	8	12	14	9	9	5	6	4	6	6,043	.254	
1	5	2	2	...	4	5	6	3	4	2	7	4	3	2	2	2	1	1,012	.42	
11	23	39	14	22	27	31	21	22	23	22	34	16	24	28	10	23	15	109	.05	
2	1	...	3	...	1	1	1	...	2	1	2	3	1	3	1	1	1	622	.26	
4	1	2	8	5	3	10	15	10	7	12	13	10	22	12	21	17	26	28	.01	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	215	.09	
2	2	2	1	1	5	7	2	22	11	17	12	18	14	20	13	1	...	5	.00	
3	4	4	6	7	6	11	14	15	19	7	11	10	14	9	4	4	4	159	.07	
5	4	2	8	6	9	14	17	16	8	12	8	5	12	8	4	6	13	224	.09	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	186	.08	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32	.01	

TABLE X.—*International Classification.*—Continued.

Battalion Numbers.	CAUSES OF DEATH.	1853.	1854.	1855.	1856.	1857.	1858.	1859.
VII.								
THE PUERPERAL STATE.								
134	Accidents of Pregnancy.....							
136	Other Accidents of Labor.....							
137	Septicemia, Puerperal.....	7	2	6	10	8	7	11
138	Albuminuria and Puerperal Eclampsia.....							
139	Phlegmasia Alba Dolens, Puerperal.....							
140	Other Puerperal Accidents—Sudden Death.....	5	7	9	14	13	24	14
VIII.								
DISEASES OF THE SKIN AND CELLULAR TISSUE.								
142	Gangrene.....	5	2	3	4	8	8	3
143	Carbuncle.....				1		1	1
144	Phlegmon: Acute Abscess.....	2		7	4	3	2	1
145	Other Diseases of the Skin and its Adnexa.....		3	2	3	6	1	1
IX.								
DISEASES OF THE ORGANS OF LOCOMOTION.								
146	Diseases of the Bones (Non-Tuberculous).....							
147	Arthritis, and Other Diseases of the Joints.....	3	1	2	7	6	6	9
X.								
MALFORMATIONS.								
150	Malformations, Congenital (Still-births excepted).....	3	7	11	5	12	14	14
XI.								
EARLY INFANCY.								
151	Congenital Debility, Icterus, and Sclerema.....	2	13	34	17	17	33	25
152	Other Diseases of Early Infancy.....	8	21	29	16	35	29	31
153	Lack of Care.....							
XII.								
OLD AGE.								
154	Senile Debility.....	58	67	84	76	119	114	117
XIII.								
AFFECTIONS PRODUCED BY EXTERNAL CAUSES.								
155	Suicide by Poison.....					1	2	2
156	Suicide by Asphyxia.....			1				
157	Suicide by Hanging or Strangulation.....			1	3	3	6	3
158	Suicide by Drowning.....						3	1
159	Suicide by Firearms.....							1
160	Suicide by Cutting Instruments.....							
161	Suicide by Jumping from High Places.....							
163	Other Suicides.....	3	3	6	1		2	2
164	Fractures.....	1	1		4			
166	Other Accidental Traumatism*.....	31	23	19	16	40	38	37
167	Burns and Scalds.....	9	9	14	12	7	6	13
169	Insolation.....							
170	Freezing.....							
171	Electrical Disturbances.....							
172	Accidental Drowning.....	13	15	18	13	20	24	24
174	Absorption of Deleterious Gases (Suicide excepted).....	2	2		7	3		1
175	Other Acute Poisonings.....	1	3	6	4	3	5	4
176-1	Suffocation.....							
176-2	Injuries at Birth.....							
176-3	Other External Violence (Homicide).....	3		9	1	1	1	1
XIV.								
ILL-DEFINED DISEASES.								
177	Dropsy.....	45	34	32	50	48	44	41
179	Unspecified or Ill-defined Causes of Death.....	115	151	188	306	288	310	263

\* Includes Accidental Gunshot Wounds, Injuries by Machinery, Railroad Accidents, Injuries by Horses and Vehicles, etc.



TABLE X—*International Classification.*—Continued.

1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.
9	7	4	14	14	13	2	8	12	10	16	18	9	17	3	18	18	17	17
13	19	23	21	23	18	22	19	16	23	22	27	32	24	28	22	24	24	15
10	11	7	8	6	12	6	7	6	4	7	10	12	12	5	12	11	8	10
7	11	4	7	9	7	8	15	1	2	1	2	10	1	18	1	18	3	13
4	6	5	2	3	1	5	7	4	4	2	5	2	7	6	7	5	5	7
5	15	8	9	7	5	5	6	12	11	15	5	11	18	17	16	27	15	10
15	13	11	13	8	10	12	17	16	15	14	15	17	15	17	15	11	26	32
42	45	35	47	46	62	54	60	47	34	57	53	109	169	154	135	75	67	72
31	40	41	34	28	31	23	30	23	24	34	20	31	50	42	20	22	27	16
116	132	143	161	193	152	178	188	206	217	204	232	233	254	223	216	241	213	222
1	2																	
3	1																	
4	4																	
3																		
1																		
5	4	8	13	6	12	11	15	18	15	27	19	18	8	18	26	18	22	21
55	31	50	74	66	52	69	61	56	62	63	66	84	86	55	79	69	76	74
24	21	14	10	12	16	18	16	16	15	12	12	12	14	23	17	12	18	11
32	29	29	21	26	20	27	23	20	24	30	24	29	36	39	35	37	30	4
1	3	3	1	1	1	6	2		4	2	4	1	4	5	5	9	5	
7	9	2	1	3	2								5	5	6	4	8	6
4	3	1	5	2		1	5		2	5		2	3	4	3	4	3	3
56	48	46	52	45	61	49	49	49	53	61	56	55	60	39	56	66	63	38
225	220	209	237	243	247	204	225	336	351	196	292	463	287	209	263	245	248	259



TABLE X.—*International Classification.*—Continued.

Fertili- tion Numbers.	CAUSES OF DEATH.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.
	VII									
	THE PUERPERAL STATE.									
134	Accidents of Pregnancy.....							2	2	2
136	Other Accidents of Labor.....									
137	Septicemia, Puerperal.....	9	15	22	28	16	12	19	10	25
138	Albuminuria and Puerperal Eclampsia.....	8	3	6	3	1	8	7	6	7
139	Phlegmasia Alba Dolens, Puerperal.....	1								
140	Other Puerperal Accidents—Sudden Death....	27	33	32	19	43	31	19	23	20
	VIII.									
	DISEASES OF THE SKIN AND CELLULAR TISSUE.									
142	Gangrene.....	14	11	14	6	10	15	19	6	15
143	Carbuncle.....	1		2	1	3	4	1	2	3
144	Phlegmon; Acute Abscess.....	14	5	17	14	18	18	21	13	15
145	Other Diseases of the Skin and its Adnexa....	3	2	6	3	1	9	2	9	5
	IX.									
	DISEASES OF THE ORGANS OF LOCOMOTION.									
146	Diseases of the Bones (Non-Tuberculous).....									
147	Arthritis, and other Diseases of the Joints.....	20	15	11	25	26	32	34	26	23
	X.									
	MALFORMATIONS.									
150	Malformations, Congenital (Still-births excepted)	19	13	26	21	19	22	15	15	18
	XI.									
	EARLY INFANCY.									
151	Congenital Debility, Icterus, and Sclerema.....	69	93	92	101	137	128	132	157	201
152	Other Diseases of Early Infancy.....	22	28	28	33	47	26	35	37	34
153	Lack of Care.....									
	XII.									
	OLD AGE.									
154	Senile Debility.....	220	273	247	283	275	293	267	276	278
	XIII.									
	AFFECTIONS PRODUCED BY EXTERNAL CAUSES.									
155	Suicide by Poison.....									
156	Suicide by Asphyxia.....									
157	Suicide by Hanging or Strangulation.....									
158	Suicide by Drowning.....									
159	Suicide by Firearms.....									
160	Suicide by Cutting Instruments.....									
161	Suicide by Jumping from High Places.....									
163	Other Suicides.....	13	10	23	31	25	22	20	17	16
164	Fractures.....									
166	Other Accidental Traumatisms*.....	73	87	82	107	94	11	98	97	122
167	Burns and Scalds.....	13	21	16	17	18	20	19	23	17
169	Insolation.....									6
170	Freezing.....									1
171	Electrical Disturbances.....									
172	Accidental Drowning.....	22	33	29	40	27	41	42	58	39
174	Absorption of Deleterious Gases (Suicide ex- cepted).....			19	8	12	11	10	10	14
175	Other Acute Poisonings.....	5	5	9	6	6	7	9	6	7
176-6	Suffocation.....									
176-2	Injuries at Birth.....									
176-3	Other External Violence (Homicide).....	1	1	4	6	3	2	3	2	2
	XIV.									
	ILL-DEFINED DISEASES.									
177	Dropsy.....	50	37	47	50	48	42	44	49	39
179	Unspecified or Ill-defined Causes of Death.....	302	279	402	316	208	61	116	90	54

\* Includes Accidental Gunshot Wounds, Injuries by Machinery, Railroad Accidents, Injuries by Horses and Vehicles, etc.

TABLE X.—*International Classification.*—Concluded.

1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	TOTAL AND PER- CENTAGE FOR 50 YEARS, 1853-1902.	
2	1	3	2	6	4	8	7	13	12	13	7	21	8	1	8	11	5	114	.05
18	17	19	12	30	21	32	24	16	19	34	26	49	42	33	29	50	50	843	.35
6	6	4	5	8	4	13	12	13	20	14	13	23	21	22	8	14	26	320	.14
25	19	19	15	29	27	13	7	7	6	2	3	3	2	5	2	2	3	930	.39
19	26	24	16	21	17	13	...	3	...	...	16	14	6	53	18	16	482	.20	
19	17	13	6	4	3	3	3	2	1	2	1	4	2	4	4	1	...	69	.03
7	3	9	7	5	5	26	10	12	3	4	5	...	5	3	...	4	3	489	.21
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	247	.10
15	18	25	20	17	14	19	23	22	15	12	18	7	6	13	17	15	18	26	.01
...	...	...	...	...	...	...	...	...	...	...	...	2	1	1	1	...	...	686	.29
20	19	25	28	16	24	23	32	32	30	35	46	47	57	79	70	78	60	1,039	.44
230	195	225	251	245	224	373	344	390	372	257	294	316	315	450	392	357	355	7,096	2.99
51	55	41	75	37	53	66	73	28	40	26	21	16	18	25	32	30	30	1,651	.69
...	...	...	...	...	...	...	...	...	...	...	...	1	...	7	16	4	...	8	.00
290	227	198	185	256	183	187	282	293	253	205	228	268	234	261	202	196	188	10,321	4.33
3	2	4	9	3	5	8	6	6	9	14	5	13	11	12	16	19	10	118	.05
...	2	1	2	2	1	6	2	10	4	4	6	1	5	6	13	11	4	53	.02
7	8	1	5	1	4	15	3	8	6	9	10	13	13	10	9	12	7	133	.04
...	3	3	5	2	2	8	5	...	6	8	6	9	7	6	5	8	8	78	.03
...	4	...	13	2	4	3	11	12	11	8	7	10	15	12	10	12	16	116	.04
2	...	2	3	1	4	...	4	2	4	2	6	8	4	6	1	1	8	49	.02
2	...	...	...	...	...	...	...	...	1	1	1	1	...	1	1	...	1	7	.00
7	5	8	3	8	1	5	...	...	...	...	...	...	...	1	...	1	...	520	.22
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	.00
95	126	129	124	187	160	118	163	141	146	156	158	185	163	189	213	199	172	4,550	1.90
27	20	20	18	21	26	28	28	25	41	21	28	33	36	34	34	28	23	933	.39
1	...	6	5	17	...	8	4	47	1	23	2	13	37	3	7	5	11	178	.08
1	2	1	...	2	1	2	2	2	3	4	3	...	14	5	5	3	1	41	.02
...	2	1	1	...	1	...	2	6	1	2	2	2	...	3	5	2	4	23	.01
46	52	71	52	48	47	52	61	39	40	60	45	64	57	47	72	51	57	1,794	.75
8	9	12	17	26	14	21	22	24	22	19	31	53	33	16	21	13	11	465	.20
12	5	10	15	9	13	6	11	12	8	10	6	14	6	9	9	5	10	309	.13
...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	10	15	12	11	.01
...	...	...	...	...	...	...	...	...	...	...	...	...	...	35	32	61	57	35	.02
5	3	2	1	4	3	9	6	2	12	13	15	10	7	11	9	12	6	193	.08
48	51	48	38	42	44	7	...	...	...	...	...	...	...	...	...	11	...	1,980	.83
74	88	88	69	62	99	57	60	52	33	33	26	33	42	59	46	72	37	9,247	3.88

TABLE XI.—OCCUPATIONS AND AGES OF DECEDENTS.

*Showing the Number and Occupation of Decedents for the year 1905, and for a period of fifty-three Years and Seven Months, 1852 to 1905, inclusive.*

[AGES UNDER TWENTY EXCLUDED.]

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
I.						
TILLERS OF THE SOIL.						
Farmers.....	154	10,740	69.74	8,013	538,798	67.24
Florists.....	4	239	59.75	79	4,380	55.44
Gardeners.....	16	1,024	64.00	438	26,185	59.78
Total.....	174	12,003	68.98	8,530	569,363	66.75
II.						
PROFESSIONAL AND PERSONAL.						
Acrobats.....				1	24	24.00
Actors.....	2	70	35.00	25	892	35.68
Aeronauts.....				1	23	23.00
Architects.....	3	214	71.33	25	1,466	58.64
Artists.....	2	131	65.50	54	2,815	52.13
Assayers and Analytical Chemists.....	1	36	36.00	12	671	55.92
Athletes.....				1	25	25.00
Authors.....	1	66	66.00	10	992	99.20
Ball-players.....				2	65	32.50
Capitalists.....	1	52	52.00	1	52	52.00
Chiropodists.....				1	58	58.00
Civil Engineers.....	2	104	52.00	62	3,135	50.56
Clergymen.....	12	763	63.58	322	20,581	63.91
Couriers.....				2	113	56.50
Curators.....				1	58	58.00
Dancing Masters.....				3	173	57.67
Dentists.....	4	208	52.00	72	3,816	53.00
Designers.....	2	59	29.50	30	1,527	50.90

TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Draughtsmen.....	3	82	27.33	27	952	35.26
Electricians.....	4	114	28.50	42	1,476	35.14
Inspectors.....	3	175	58.33	37	1,847	49.92
Inventors.....	1	63	63.00	17	1,117	65.71
Journalists (Editors and Reporters).....	3	174	58.33	63	3,064	48.63
Judges and Justices.....	1	68	68.00	21	1,374	65.43
Lawyers.....	7	374	53.43	240	13,870	57.79
Lecturers.....	.....	.....	.....	2	108	54.00
Musicians.....	9	425	47.22	117	5,454	46.62
Nurses.....	1	29	29.00	22	1,152	52.36
Photographers and Lithographers.....	3	135	45.00	40	1,883	47.07
Physicians.....	12	646	53.83	401	23,649	58.97
Poets.....	.....	.....	.....	1	82	82.00
Postmasters.....	1	54	54.00	1	54	54.00
Professors and Teachers.....	2	122	61.00	165	8,373	50.75
Proofreaders.....	.....	.....	.....	2	142	71.00
Public Officers.....	2	141	70.50	116	7,053	60.80
Publishers.....	2	131	65.50	4	236	59.00
Sculptors.....	.....	.....	.....	1	41	41.00
Secretaries.....	1	68	68.00	3	182	60.67
Sheriffs and Policemen.....	14	779	55.64	181	9,882	54.60
Stenographers.....	.....	.....	.....	2	116	58.00
Students.....	3	83	27.67	101	2,369	23.46
Submarine Divers.....	.....	.....	.....	1	73	73.00
Telegraph and Telephone Operators.....	2	52	26.00	31	920	29.68
Treasurers.....	2	119	59.50	19	1,006	52.95
Trustees.....	.....	.....	.....	5	299	59.80
Veterinary Surgeons.....	.....	.....	.....	11	604	54.91
Weighers and Gaugers.....	.....	.....	.....	9	576	64.00
Total.....	106	5,537	52.24	2,307	124,440	53.94
III.						
OPTIONAL ACTIVITY.						
Agents and Canvassers.....	10	374	37.40	274	14,159	51.68
Insurance.....	6	371	61.83	58	3,275	56.47

TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Agents, Real Estate.....	6	368	61.33	45	2,889	64.20
Auctioneers.....	2	137	68.50	8	411	51.38
Bankers and Brokers.....	11	655	59.55	210	12,639	60.19
Bank Officers.....	..	..	..	79	5,064	64.10
Bartenders.....	9	589	65.44	89	3,445	38.71
Booksellers.....	..	..	..	4	291	72.75
Bottlers.....	1	48	48.00	14	561	40.07
Butchers and Marketmen...	13	689	53.00	373	19,415	52.05
Carriage Dealers.....	1	66	66.00	1	66	66.00
Coal and Wood.....	4	234	58.50	31	1,806	58.26
Dry Goods.....	..	..	..	4	207	51.75
Fish and Oyster.....	2	134	67.00	37	2,214	59.84
Furniture.....	1	77	77.00	10	658	65.80
Hardware.....	..	..	..	10	639	63.90
Ice.....	2	108	54.00	9	476	52.89
Junk.....	2	62	31.00	23	1,224	53.21
Leather.....	..	..	..	2	81	40.50
Liquor.....	8	358	44.75	162	7,552	46.61
Lumber.....	..	..	..	26	1,554	59.77
Music.....	..	..	..	1	61	61.00
News.....	1	26	26.00	9	448	49.78
Oil.....	..	..	..	1	47	47.00
Provision.....	1	52	52.00	33	2,043	61.91
Shoe.....	..	..	..	14	757	54.07
Wool Waste.....	..	..	..	1	56	56.00
Clothiers.....	..	..	..	18	991	55.05
Collectors.....	6	370	61.67	21	1,077	51.29
Commercial Travelers.....	2	76	38.00	52	2,436	46.85
Contractors and Builders...	10	654	65.40	179	10,785	60.25
Druggists and Apothecaries.....	7	343	49.00	161	7,592	47.16
Fish Culturists.....	..	..	..	2	141	70.50
Fruiterers.....	1	52	52.00	14	691	49.36
Furriers.....	..	..	..	1	65	65.00
Grocers.....	14	755	53.93	578	31,802	55.02
Hotel and Inn-keepers.....	5	301	60.20	210	11,795	56.17
Saloon and Restaurant....	4	200	50.00	246	11,330	46.06
Stable.....	4	270	67.50	97	5,311	54.75
Store.....	10	508	50.80	96	5,220	54.37
Jobbers.....	..	..	..	1	56	56.00

TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Manufacturers.....	21	1,356	64.57	786	47,950	61.01
Stove .....				7	416	59.43
Merchants.....	48	2,911	60.65	1,602	93,153	58.15
Opticians.....	1	76	76.00	11	637	57.91
Organ and Piano Tuners.....				6	402	67.00
Policy Brokers.....				1	24	24.00
Pork and Meat Cutters and Packers.....	2	68	34.00	32	1,446	45.19
Promotors.....				1	25	25.00
Railroad Officials.....				13	735	56.54
Ship Chandlers.....				5	318	63.60
Tobacconists.....	1	38	38.00	20	1,111	55.55
Traders (Horse) .....				286	14,409	50.38
Undertakers.....	1	72	72.00	66	3,728	56.48
Total.....	217	12,398	57.13	6,040	335,684	55.58
IV.						
OUTDOOR—Local.						
Boat Builders.....				35	2,210	63.14
Brickmakers.....				8	352	44.00
Brick and Stone-layers.....				20	912	45.60
Bridge Builders.....				2	123	61.50
Calkers.....				16	1,114	69.62
Carpenters and Joiners.....	92	5,634	61.24	2,807	160,406	57.14
Masons.....	30	1,728	57.60	1,149	65,480	56.99
Millwrights.....				42	2,867	68.26
Riggers.....				26	1,397	53.75
Roofers.....				8	415	55.33
Ship Carpenters.....	4	276	69.00	93	6,451	69.37
Slaters.....				12	572	47.67
Stone Cutters and Marble Workers.....	12	561	46.75	56	2,874	51.32
Superintendents of Highways.....				1	79	79.00
Tanners and Curriers.....	3	188	62.67	71	4,497	63.34
Wheelwrights.....	1	74	74.00	134	8,158	60.88
Total .....	142	8,461	59.58	4,480	257,907	57.57



TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
V.						
INDOOR.— <i>Active.</i>						
Axe and Scythe-grinders.....				4	222	55.50
Bakers.....	5	299	59.80	219	13,661	62.38
Basket-makers.....				8	457	57.12
Belt.....	3	175	58.33	23	1,216	52.87
Bobbin.....	1	22	22.00	8	407	50.87
Boiler.....	3	147	49.00	103	4,432	43.03
Bolt.....				3	158	52.67
Broom and Brush.....				18	905	50.28
Button.....				1	37	37.00
Cabinet.....	7	384	54.86	170	9,991	58.77
Card.....				4	201	50.25
Carriage, and Trimmers... 1		58	58.00	158	9,310	58.92
Chair.....				1	70	70.00
Comb.....				5	187	37.40
Frame.....				1	42	42.00
Mattress.....				1	38	38.00
Pattern.....	5	298	59.60	107	6,345	59.30
Pianoforte.....				3	157	52.33
Picker.....				5	303	60.06
Plane.....				1	79	79.00
Pump and Block.....	1	38	38.00	15	826	55.07
Reed.....	2	119	59.50	9	499	55.44
Sash and Blind.....				11	554	59.28
Scythe.....				1	83	83.00
Spindle.....				5	297	59.40
Stopper.....				1	22	22.00
Stove, and Mounters.....				6	312	52.00
Tool.....	5	144	28.80	67	3,454	51.55
Trunk.....				4	142	35.50
Umbrella.....				2	103	51.50
Wringer.....	1	72	72.00	5	184	36.80
Beamers.....				4	165	41.25
Bell-hangers.....				2	47	23.50
Blacksmiths and Farriers... 21		1,075	51.19	888	48,906	55.08
Bleachers and Fullers..... 4		201	50.25	95	4,737	49.86
Bonnet-dressers.....				2	73	36.50
Brewers.....	1	42	42.00	29	1,395	48.10

TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Britannia workers.....				1	65	65.00
Car-builders.....				1	57	57.00
Stair.....				4	219	54.75
Card-grinders.....				3	138	46.00
Carvers.....				3	147	49.00
Confectioners.....	1	46	46.00	60	2,763	46.05
Cooks and Caterers.....	12	576	48.00	189	9,163	48.48
Coopers.....	2	92	46.00	143	9,407	65.78
Coppersmiths.....	3	120	40.00	19	816	42.95
Cutters.....	2	51	25.50	10	444	44.40
Nail.....				12	490	40.83
Decorators.....				16	631	39.44
Distillers.....				1	77	77.00
Dyers.....	6	292	48.67	191	9,933	52.01
Founders, Brass and Iron...	1	75	75.00	25	1,250	50.00
Foundrymen.....	1	53	53.00	25	1,326	53.04
Gas Fitters.....				65	2,830	43.54
Gilders.....				13	595	45.77
Gun and Locksmiths.....				29	1,554	53.59
Hatters.....				28	1,538	54.93
Iron Rollers and Workers...	3	108	36.00	30	1,344	44.80
Japanners.....				1	47	47.00
Lathers.....				10	412	41.20
Loomfixers.....	14	715	51.07	47	2,309	49.12
Machinists.....	80	4,096	51.20	2,144	105,421	49.17
Mechanics.....	3	184	61.33	554	29,409	53.08
Miners.....				22	1,328	60.36
Moulders.....	14	732	52.29	460	24,925	54.18
Painters and Glaziers.....	52	2,996	57.62	1,390	69,166	49.76
Paper-hangers.....	3	192	64.00	32	1,715	53.59
Plasterers and Stucco-work- ers.....	2	108	54.00	74	3,593	48.55
Platers.....	4	207	51.75	20	1,089	54.45
Plumbers.....	13	608	46.77	166	6,760	40.72
Pressmen.....	3	103	34.33	10	400	40.00
Refiners.....	1	47	47.00	7	266	38.00
Gold.....				4	179	44.75
Oil.....				1	76	76.00
Sugar.....				8	390	48.75
Soap-boilers.....				5	353	70.60

TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Stampers.....				3	94	31.33
Steam-pipers.....	5	242	28.40	36	1,486	41.28
Superintendents and Overseers.....	30	1,649	54.97	544	30,555	56.17
Tallow Chandlers.....				4	322	80.50
Tinsmiths.....	13	750	57.69	181	9,002	49.73
Upholsterers.....	3	159	53.00	74	3,161	42.72
Wire-workers.....	2	88	44.00	27	1,169	43.30
Wood Carvers.....				4	149	37.25
Finishers.....	1	75	75.00	11	572	52.00
Turners.....	4	225	56.25	73	3,520	48.22
Total.....	338	17,663	52.26	8,769	452,672	51.62
VI.						
INDOOR.— <i>Activity Restricted.</i>						
Barbers.....	17	718	42.24	367	13,446	36.64
Bookbinders.....				30	1,397	46.57
Bookkeepers.....	20	1,080	54.00	540	25,300	46.85
Box-makers.....	2	48	24.00	27	1,397	51.74
Chain.....				5	261	52.20
Cigar.....	2	111	55.50	125	5,906	47.25
Clock and Watch.....	3	160	53.33	53	3,006	56.71
Harness and Saddle.....	7	444	63.43	160	8,343	52.14
Paper.....				7	389	55.57
Rope.....				25	1,672	66.88
Sail.....	2	103	51.50	41	2,393	52.14
Shoe.....	19	1,014	53.37	745	43,278	58.09
Carders.....	5	300	60.00	29	1,634	56.34
Chasers.....	3	165	55.00	27	1,138	42.15
Clerks and Salesmen.....	86	3,506	40.77	1,877	71,901	38.31
Compositors.....				11	534	48.55
Die Cutters and Sinkers.....	3	196	65.33	33	1,677	50.82
Enamelers.....	1	33	33.00	13	633	51.00
Engravers.....	5	249	49.80	170	8,421	49.54
File Cutters and Forgers.....	2	112	56.00	119	4,996	41.98

TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1906.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Finishers.....				31	1,661	53.58
Brass.....				8	346	43.25
Cloth.....	4	263	65.75	7	445	63.57
Folders.....	4	186	46.50	15	681	45.40
Glass-blowers.....				2	134	67.00
Jewelers.....	77	2,090	27.14	1,510	63,490	42.05
Shell.....				3	182	60.67
Knitters.....	3	106	35.33	8	252	31.50
Lapidaries.....	1	71	71.00	15	631	42.07
Millers.....	2	126	63.00	58	3,426	59.07
Operatives.....	73	3,314	45.40	3,105	137,566	44.30
Pearl-cutters.....	2	46	23.00	6	203	33.83
Polishers.....	6	266	44.33	62	2,805	45.24
Furniture.....				2	84	42.00
Marble.....				1	62	62.00
Silver.....	1	32	32.00	3	91	30.33
Steel.....				1	42	42.00
Printers.....	10	410	41.00	264	14,576	55.21
Calico.....	1	76	76.00	61	3,389	55.56
Roll-coverers.....				38	2,241	58.98
Rubber-workers.....	13	575	44.23	262	11,033	42.11
Silversmiths.....	5	219	43.80	175	7,978	45.59
Spinners.....	14	771	55.07	48	2,612	54.42
Tailors.....	10	489	48.90	527	29,262	55.53
Weavers.....	45	2,041	45.36	221	10,417	47.14
Wool-sorters.....	3	162	54.00	86	4,324	50.28
Totals.....	451	19,482	43.20	10,923	495,685	45.38
VII.						
OCCUPATIONS AT LARGE.						
Army Officers.....				9	530	58.88
Naval.....	2	98	49.00	24	1,150	47.92
Baggage Masters.....	1	61	61.00	7	312	44.57
Bill-posters.....				3	162	54.00
Boatmen.....	1	47	47.00	38	2,060	54.21
Bootblacks.....	1	39	39.00	2	85	42.50

TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Brakemen.....	2	47	23.50	183	5,482	29.96
Butlers.....	1	86	86.00	9	371	41.22
Coachmen.....	2	59	29.50	243	10,982	45.20
Conductors and Motormen..	11	509	46.27	105	4,412	42.02
Drivers.....	8	436	54.50	83	3,241	39.05
Hack and Cab.....				73	3,120	42.74
Stage.....				8	398	49.75
Drovers.....				2	83	41.50
Elevator Operators.....				6	226	37.67
Engineers and Firemen.....	45	2,479	55.09	672	34,095	50.74
Stationary Engineers.....	3	159	53.00	7	376	53.71
Expressmen.....	5	306	61.20	129	6,573	50.95
Fire Company Members.....				14	670	47.85
Fishermen and Oystermen...	8	481	60.13	331	17,977	54.31
Footmen.....				1	24	24.00
Highway Surveyors.....				2	133	66.50
Hostlers.....	8	298	37.25	209	9,979	47.75
House Movers.....				10	638	63.80
Ice men.....				6	395	65.83
Janitors.....	14	718	51.29	169	9,284	54.93
Laborers.....	453	23,170	51.15	13,355	661,092	49.50
Lamplighters.....				22	1,192	54.18
Laundrymen.....	4	184	46.00	39	1,702	43.64
Lighthouse Keepers.....	1	62	62.00	1	62	62.00
Linemen.....	2	57	28.50	21	861	41.00
Longshoremen.....	3	121	40.33	15	609	40.60
Lumbermen.....				5	266	53.20
Mail Carriers.....	2	84	42.00	31	1,421	45.84
Marines.....				1	21	21.00
Messengers.....				2	143	61.50
Milkmen.....	1	43	43.00	29	1,147	39.55
Pavers.....				4	153	38.25
Peddlers.....	9	471	52.33	248	12,454	50.22
Pilots.....	1	93	93.00	32	1,881	58.78
Porters.....	3	132	44.00	69	3,259	47.23
Railroad Employees.....	6	314	52.33	16	731	45.69
Station Agents.....	3	191	63.67	5	298	59.60
Roofers.....				3	202	67.33
Sailors.....	16	698	43.63	400	19,393	48.48
U. S. Navy.....	9	290	32.22	11	404	36.73



TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Scissors-grinders.....				2	125	62.50
Sea Captains and Ship Mas- ters.....	9	661	73.44	233	16,534	70.96
Servants.....	1	65	65.00	35	1,555	44.43
Sextons.....	3	175	58.33	18	1,044	58.00
Sinkers of Artesian Wells....				3	163	54.33
Soldiers.....	6	219	36.50	171	5,334	31.19
Stevedores.....				21	1,001	47.67
Stewards.....	2	114	57.00	36	1,728	48.00
Switchmen and Gatemen....	7	295	42.14	43	2,280	53.02
Teamsters.....	60	2,630	43.83	1,002	46,735	46.64
Theatrical Managers.....				3	137	45.67
Waiters.....	8	263	32.88	186	7,272	39.10
Watchmen.....	9	491	54.56	249	14,279	57.35
Whitewashers.....	1	63	63.00	9	515	57.22
Wood Choppers.....	2	128	64.00	2	128	64.00
Wood Sawyers.....				5	239	47.80
Totals.....	733	36,837	50.25	18,672	919,118	49.22
VIII.						
EMPLOYMENTS OF WOMEN.						
Actresses.....				3	112	37.33
Agents.....	1	53	53.00	2	112	56.00
Artists.....				7	370	52.86
Authoresses.....				1	66	66.00
Bakers.....				1	42	42.00
Basket-makers.....				2	149	74.50
Box.....	1	27	27.00	8	244	30.50
Broom and Brush.....				1	34	34.00
Braid.....				1	66	66.00
Button.....	1	28	28.00	1	28	28.00
Cap.....				1	28	28.00
Chain.....				6	206	34.33
Cigar.....				8	243	30.37
Dress, and Seamstresses..	12	489	40.75	486	20,169	41.50
Boarding-house Keepers....				28	1,708	61.00
Boatwomen.....				1	60	60.00



TABLE XI.—OCCUPATIONS AND AGES.—Continued.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Bookkeepers.....	3	99	33.00	31	928	29.94
Charwomen.....	.....	.....	.....	1	60	60.00
Clerks and Saleswomen.....	12	331	27.59	93	2,808	30.19
Compositors.....	.....	.....	.....	2	62	31.00
Cloth Trimmers.....	1	36	36.00	1	36	36.00
Cooks.....	8	278	34.75	87	4,446	51.10
Farming.....	.....	.....	.....	2	124	62.00
Folders.....	.....	.....	.....	2	54	27.00
Hairdressers.....	.....	.....	.....	2	55	27.50
Jewelers.....	5	140	28.00	35	1,143	32.66
Laboring.....	.....	.....	.....	18	783	43.50
Lacemakers.....	.....	.....	.....	2	70	35.00
Laundresses.....	9	436	48.44	79	3,783	47.89
Lodging-house Keepers.....	.....	.....	.....	1	31	31.00
Managers.....	.....	.....	.....	1	66	66.00
Matrons.....	1	32	32.00	5	253	50.60
Milliners.....	6	227	37.83	79	2,794	35.37
Modistes.....	.....	.....	.....	1	38	38.00
Musicians.....	.....	.....	.....	4	125	31.25
Nurses.....	9	382	42.44	169	9,422	55.75
Oculists.....	.....	.....	.....	1	59	59.00
Operatives.....	61	2,167	35.52	1,274	42,097	33.04
Physicians.....	.....	.....	.....	13	741	57.00
Postmistresses.....	.....	.....	.....	1	28	28.00
Public Officers.....	.....	.....	.....	2	110	55.00
Rubber-workers.....	3	114	38.00	31	924	29.81
Sculptors.....	.....	.....	.....	1	30	30.00
Servants.....	17	867	51.00	715	33,647	47.06
Sisters of Mercy.....	3	125	41.67	47	2,015	42.87
Stenographers.....	1	28	28.00	4	136	24.00
Stewardesses.....	.....	.....	.....	2	114	57.00
Storekeepers.....	.....	.....	.....	13	614	47.23
Students.....	.....	.....	.....	2	41	20.50
Superintendents.....	1	61	61.00	3	187	62.33
Tailoresses.....	2	129	64.50	160	7,527	47.04
Teachers.....	14	670	47.86	313	15,484	49.47
Music.....	1	27	27.00	3	79	26.33
Telegraph and Telephone Operators.....	1	22	22.00	13	373	28.69
Toy Makers.....	1	21	21.00	1	21	21.00

TABLE XI.—OCCUPATIONS AND AGES.—Concluded.

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December 31, 1905.		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
Typewriters.....	2	76	38.00	19	597	31.42
Upholsterers.....	17	859	50.53	65	2,808	43.20
Waitresses.....	1	32	32.00	1	32	32.00
Winders.....						
Totals.....	194	7,756	39.98	3,859	158,478	41.07

TABLE XI.—OCCUPATIONS AND AGES.—(RECAPITULATION.)

OCCUPATIONS.	STATE OF RHODE ISLAND.					
	1905.			FIFTY-THREE YEARS AND SEVEN MONTHS. June 1, 1852, to December, 31, 1905,		
	Total Mortality.	Aggregate Ages.	Average Age.	Total Mortality.	Aggregate Ages.	Average Age.
I.						
TILLERS OF THE SOIL.....	174	12,003	68.98	8,530	569,363	66.75
II.						
PROFESSIONAL AND PERSONAL.....	106	5,537	52.24	2,307	124,440	53.94
III.						
OPTIONAL ACTIVITY.....	217	12,398	57.13	6,040	335,684	55.58
IV.						
OUTDOOR.— <i>Local</i> .....	142	8,461	59.58	4,480	257,907	57.57
V.						
INDOOR.— <i>Active</i> .....	388	17,663	52.26	8,769	452,672	51.62
VI.						
INDOOR— <i>Activity Restricted</i> .	451	19,482	43.20	10,923	495,685	45.38
VII.						
OCCUPATIONS AT LARGE.....	733	36,837	50.25	18,672	919,118	49.22
VIII.						
EMPLOYMENTS OF WOMEN....	194	7,756	39.98	3,859	158,478	41.07
ALL CLASSES.....	2,355	120,137	51.01	63,580	3,313,347	52.11





TABLE XII.—OCCUPATIONS AND CAUSES OF DEATH, 1905.—Continued.

OCCUPATIONS.	Whole Number.	Accidents.	Alcoholism.	Apoplexy and Cerebral Hemorrhage.	Appendicitis.	Asthma.	Bladder Diseases.	Brain Diseases.	Bronchitis.	Cancer.	Diabetes.	Diarrhea and Enteritis.	Dysentery.	Epilepsy.	Erysipelas.	Heart Diseases.	Influenza.	Insanity.	Intestinal Diseases.	Kidney Diseases (Bright's).	Liver Diseases.	Malarial Fever.	Old Age.	Pleurisy.	Pneumonia.	Rheumatism.	Stomach Diseases.	Suicide.	Tuberculosis.	Typhoid Fever.
Postmasters.....	1	1							1							2														
Professors and Teachers.....	2							1									1													
Public Officers.....	2																													
Publishers.....	2		1	1																										
Secretaries.....	1							1																						
Sheriffs and Policemen.....	14			2	1				1								4			3										
Students.....	3																													
Telegraphers.....	1			1																										2
Treasurers.....	2																				1									
Total.....	104	3	2	4	4		1	4	1	7	3					16	2			21	2	1	2		13	1		211		4
III.																														
OPTIONAL ACTIVITY.																														
Agents and Canvassers.....	10			1				1	1							4	1												1	1





TABLE XII.—OCCUPATIONS AND CAUSES OF DEATH, 1905.—Continued.

OCCUPATIONS.	Whole Number.	Accidents.	Alcoholism.	Apoplexy and Cerebral Hemorrhage.	Appendicitis.	Asthma.	Bladder Diseases.	Brain Diseases.	Bronchitis.	Cancer.	Diabetes.	Dysentery.	Epilepsy.	Erysipelas.	Heart Diseases.	Influenza.	Insanity.	Intestinal Diseases.	Kidney Diseases (Bright's).	Malarial Fever.	Old Age.	Pleurisy.	Pneumonia.	Rheumatism.	Stomach Diseases.	Suicide.	Tuberculosis.	Typhoid Fever.
Collectors.....	6	..	..	..	..	..	1	..	..	..	1	1	..	..	1	..	..	..	1	..	..	..	..	..	..	1	1	..
Commercial Travelers.....	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Contractors and Builders.....	10	1	..	2	..	..	1	1	1	..	1	..	..	..	3	..	..	..	1	1	..	..	..	..	..	..	..	..
Druggists and Apothecaries.....	7	..	..	1	..	..	..	..	1	1	..	..	..	..	1	1	..	..	1	..	..	..	1	..	..	..	2	..
Grocers.....	14	..	..	2	..	..	..	..	..	..	1	1	..	..	2	1	1	..	2	2	..	1	3	..	..	..	1	..
Hotel and Inn Keepers.....	5	..	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	..	..	..	..	..
Saloon and Restaurant.....	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	1	..
Stable.....	4	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	1	1	..	..	..	..
Store.....	10	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	2	..	2	1	..	1	..	4	..
Manufacturers.....	21	..	..	4	1	1	1	1	1	..	..	..	..	..	3	..	..	..	2	1	1	2	2	2	2	..	2	..
Merchants.....	48	2	3	4	..	2	4	3	2	3	2	..	..	7	7	2	1	1	7	1	1	1	4	..	..	..	3	..
Opticians.....	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pork and Meat Cutters & Packers.	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Tobacconists.....	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total.....	214	9	8	22	1	2	5	4	9	7	5	2	1	..	34	4	1	230	6	1	3	2	23	2	3	2	25	1

TABLE XII.—OCCUPATIONS AND CAUSES OF DEATH, 1905.—Continued.

OCCUPATIONS.	Whole Number.	Accidents.	Alcoholism.	Apoplexy and Cerebral Hemorrhage.	Appendicitis.	Asthma.	Bladder Diseases.	Brain Diseases.	Bronchitis.	Cancer.	Diabetes.	Diarrhea and Enteritis.	Dysentery.	Epilepsy.	Erysipelas.	Heart Diseases.	Influenza.	Insanity.	Intestinal Diseases.	Kidney Diseases (Bright's).	Liver Diseases.	Malarial Fever.	Old Age.	Pleurisy.	Pneumonia.	Rheumatism.	Stomach Diseases.	Suicide.	Tuberculosis.	Typhoid Fever.	
IV.																															
OUTDOOR.—Local.																															
Carpenters and Joiners.....	91	8	1	13	..	..	3	1	5	..	1	1	..	16	1	1	1	14	2	..	5	..	8	..	..	..	..	..	12	..	
Masons.....	30	2	..	1	1	..	..	..	3	..	..	..	..	8	1	..	..	7	..	..	1	..	1	..	1	..	1	2	3	..	
Ship Carpenters.....	4	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	1	..	..	..	
Stone Cutters and Marble Workers	12	1	1	..	..	1	1	1	..	..	..	..	1	1	1	1	1	1	1	..	..	..	..	..	1	..	..	..	4	..	
Tanners and Curriers.....	3	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	
Wheelwright.....	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Total.....	141	11	2	16	1	1	4	2	9	..	1	1	..	26	2	1	1	24	2	..	6	..	10	..	1	2	20	..	..	..	..
V.																															
INDOOR.—Active.																															
Bakers.....	5	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	

TABLE XII.—OCCUPATIONS AND CAUSES OF DEATH, 1905.—Continued.

OCCUPATIONS.	Whole Number.	Accidents.	Alcoholism.	Apoplexy and Cerebral Hemorrhage.	Appendicitis.	Asthma.	Bladder Diseases.	Brain Diseases.	Bronchitis.	Cancer.	Diabetes.	Diarrhea and Enteritis.	Dysentery.	Epilepsy.	Erysipelas.	Heart Diseases.	Influenza.	Insanity.	Intestinal Diseases.	Kidney Diseases (Bright's).	Liver Diseases.	Malarial Fever.	Old Age.	Pleurisy.	Pneumonia.	Rheumatism.	Stomach Diseases.	Suicide.	Tuberculosis.	Typhoid Fever.
Belt-makers.....	3	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Bobbin.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Boiler.....	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Cabinet.....	7	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	..	1	..	2	..
Carriage, and Trimmers.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..
Pattern.....	5	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	..	..	2	..
Pump and Block.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Reed.....	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..
Tool.....	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	3	..
Wringer.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Blacksmiths and Farriers.....	21	1	3	..	1	1	1	..	..	..	..	..	..	5	1	..	..	..	1	..	..	..	1	1	2	..	..	..	4	..
Bleachers and Fullers.....	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	1	..
Brewers.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Confectioners.....	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cooks and Caterers.....	12	..	1	2	..	..	1	1	1	1	..	..	2	..	..	..	..	..	..	1	..	..	..	..	2	..	1	1	1	1
Coopers.....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coppersmiths.....	3	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..

TABLE XII.—OCCUPATIONS AND CAUSES OF DEATH, 1905.—Continued.

OCCUPATIONS.	Whole Number.	Accidents.																Typhoid Fever.															
		Alcoholism.	Apoplexy and Cerebral Hemorrhage.	Appendicitis.	Asthma.	Bladder Diseases.	Brain Diseases.	Bronchitis.	Cancer.	Diabetes.	Diarrhea and Enteritis.	Dysentery.	Epilepsy.	Erysipelas.	Heart Diseases.	Influenza.	Insanity.	Intestinal Diseases.	Kidney Diseases (Bright's).	Liver Diseases.	Malarial Fever.	Old Age.	Pleurisy.	Pneumonia.	Rheumatism.	Stomach Diseases.	Suicide.	Tuberculosis.					
Cutters.....	2	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1				
Dyers.....	6	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1				
Founders.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..				
Iron Workers.....	3	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Loomfixers.....	12	1	2	1	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2				
Machinists.....	79	3	6	2	1	1	1	4	1	1	1	1	10	3	..	3	..	7	3	..	2	1	7	1	1	1	1	20	2				
Mechanics.....	3	..	1	..	..	..	..	1	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..				
Moulders.....	14	1	..	..	1	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..				
Painters and Glaziers.....	49	3	6	1	1	4	2	3	..	..	..	..	1	8	1	..	11	..	..	..	..	1	..	3	2	..	..	3	..				
Paper hangers.....	3	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..				
Plasterers and Stucco-workers.....	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..				
Platers, Nickel.....	2	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Gold.....	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..				
Plumbers.....	13	1	1	..	1	1	1	1	..	..	..	..	1	1	1	1	3	1	..	..	..	..	..	..	..	..	..	2	..				
Pressmen.....	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1				
Refiners.....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..				
Steam-pipers.....	5	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	2	..	..				





TABLE XII.—OCCUPATIONS AND CAUSES OF DEATH, 1905.—Continued.

OCCUPATIONS.	Whole Number.	Accidents.	Alcoholism.	Apoplexy and Cerebral Hemorrhage.	Appendicitis.	Asthma.	Bladder Diseases.	Brain Diseases.	Bronchitis.	Cancer.	Diabetes.	Diarrhea and Enteritis.	Dysentery.	Epilepsy.	Erysipelas.	Heart Diseases.	Influenza.	Insanity.	Intestinal Diseases.	Kidney Diseases (Bright's).	Liver Diseases.	Malarial Fever.	Old Age.	Pleurisy.	Pneumonia.	Rheumatism.	Stomach Diseases.	Suicide.	Tuberculosis.	Typhoid Fever.	
Clock and Watch Makers.....	2	1																		1									1		
Harness and Saddle.....	7	2		1			1									2				1											
Sail.....	2									1																				1	
Shoe.....	19	1	1	1	1					1						5			4						2				3		
Cards.....	5									1						1				1					1				1		
Chasers.....	3			1																										1	
Clerks and Salesmen.....	83	7	2	7	2		2	2	3	2					1	1	1	1	7				1	1	12	1	5	19			
Hotel Clerks.....	1																											1			
Postal Clerks.....	1																			1											
Die Cutters and Sinkers.....	2								1										1												
Stencil Cutters.....	1															1															
Enamellers.....	1																											1			
Engravers.....	5		1	2	1											1															
File Cutters.....	2																			1									1		
Finishers, Cloth.....	4	1		1															1						1						
Folders.....	4									1						1				1										2	
Jewelers.....	74	2	3	8	1				1	8	1					11		1	1	4	1		1							24	

TABLE XII.—OCCUPATIONS AND CAUSES OF DEATH, 1905.—Continued.

OCCUPATIONS.	Whole Number.	Accidents.	Alcoholism.	Apoplexy and Cerebral Hemorrhage.	Appendicitis.	Asthma.	Bladder Diseases.	Brain Diseases.	Bronchitis.	Cancer.	Diabetes.	Diarrhea and Enteritis.	Dysentery.	Erysipelas.	Heart Diseases.	Influenza.	Insanity.	Intestinal Diseases.	Kidney Diseases (Bright's).	Liver Diseases.	Malarial Fever.	Old Age.	Pleurisy.	Pneumonia.	Rheumatism.	Stomach Diseases.	Suicide.	Tuberculosis.	Typhoid Fever.	
Knitters, Hosiery.....	1	1																	1										1	
Lapidaries.....	1																													
Millers.....	2														1				1											
Operatives.....	72	6	4	5			1	2		3		1			11			6	2		2	2	1	6		1	1	17	2	
Pearl Cutters and Workers.....	2														1															
Polishers.....	6			1											1									2					1	
Silver.....	1																													
Printers.....	10														1									5						
Calico Printers.....	1																		1											
Rubber-workers.....	13		1							2					3				1											
Silversmiths.....	5			1			1																							
Spinners.....	14	1	1	1			1								1				2							1		6		
Tailors.....	10			1	2		1								1											1		1	1	
Weavers.....	44	1					1			2	3				5			1	2	3						1	4	15	2	
Wool Sorters.....	3	2																	1											
Total.....	442	24	13	32	10		5	6	3	21	6	1		1	63	5	1	2	44	9	1	5	1	49		4	13	11	4	6













TABLE XII.—OCCUPATIONS AND CAUSES OF DEATH, 1905.—RECAPITULATION.

OCCUPATIONS.	Whole Number.	Accidents.	Alcoholism.	Apoplexy and Cerebral Hemorrhage.	Appendicitis.	Asthma.	Bladder Diseases.	Brain Diseases.	Bronchitis.	Cancer.	Diabetes.	Diarrhea and Enteritis.	Dysentery.	Epilepsy.	Erysipelas.	Heart Diseases.	Influenza.	Insanity.	Intestinal Diseases.	Kidney Diseases (Bright's).	Liver Diseases.	Malarial Fever.	Old Age.	Pleurisy.	Pneumonia.	Rheumatism.	Stomach Diseases.	Suicide.	Tuberculosis.	Typhoid Fever.
I.																														
TILLERS OF THE SOIL . . . . .	173	9	1	18	1	6	..	2	10	..	3	3	3	2	..	30	3	..	2	24	6	..	16	2	15	4	2	2	11	1
II.																														
PROFESSIONAL AND PERSONAL	104	3	2	4	4	1	4	1	7	3	..	..	..	..	..	16	2	..	..	21	2	1	2	..	13	1	..	2	11	4
III.																														
OPTIONAL ACTIVITY . . . . .	214	9	8	22	1	2	5	4	9	7	5	2	1	..	..	34	4	1	2	30	6	1	3	2	23	2	3	2	25	1
IV.																														
OUTDOOR.—Local . . . . .	141	11	2	16	1	1	..	4	2	9	..	1	..	..	..	26	2	1	..	24	2	..	6	..	10	..	1	2	20	..
V.																														
INDOOR.—Active . . . . .	330	19	5	30	6	2	4	7	6	13	4	1	1	..	1	51	6	1	4	36	7	1	6	2	40	4	5	11	52	5

TABLE XII.—OCCUPATIONS AND CAUSES OF DEATH, 1905.—RECAPITULATION.—Concluded.

OCCUPATIONS.	Whole Number.	Accidents.	Alcoholism.	Apoplexy and Cerebral Hemorrhage.	Appendicitis.	Asthma.	Bladder Diseases.	Brain Diseases.	Bronchitis.	Cancer.	Diabetes.	Diarrhea and Enteritis.	Dysentery.	Epilepsy.	Erysipelas.	Heart Diseases.	Influenza.	Insanity.	Intestinal Diseases.	Kidney Diseases (Bright's).	Liver Diseases.	Malarial Fever.	Old Age.	Pleurisy.	Pneumonia.	Rheumatism.	Stomach Diseases.	Suicide.	Tuberculosis.	Typhoid Fever.
VI.																														
INDOOR.— <i>Activity Restricted.</i>	442	24	13	32	10	..	5	6	3	24	6	1	..	..	1	63	5	1	2	44	9	1	5	1	49	..	4	13	114	6
VII.																														
OCCUPATIONS AT LARGE....	718	63	18	43	2	3	8	16	14	37	5	6	4	3	4	94	5	1	9	76	13	..	14	5	107	5	4	8	140	11
VIII.																														
EMPLOYMENTS OF WOMEN..	187	1	..	10	3	1	..	4	3	11	3	1	..	..	..	26	3	1	3	23	3	1	3	5	13	2	2	3	60	2
ALL CLASSES.....	2,309	139	49	175	28	9	29	45	40	118	26	15	9	5	6	340	30	6	22	278	48	5	55	17	270	18	21	43	433	30

TABLE XII.—SUPPLEMENTAL DISEASES.

OCCUPATIONS.	MALES.																								
	Abscess in Ear.	Abscess of Lung.	Addison's Disease.	Anemia, Pernicious.	Diphtheria.	Gallstones.	Hernia.	Hodgkin's Disease.	Ischio-rectal Abscess.	Lead Poisoning.	Leukemia.	Locomotor Ataxia.	Mastoiditis.	Morphinism.	Myelitis.	Neuritis.	Pelvic Abscess.	Posterior Cecal Abscess.	Psoas Abscess.	Puerperal Peritonitis.	Salpingitis.	Syphilis.	Uterine Fibroids.		
Boatmen.....	1				1							1													
Carpenters.....	1																								
Clerks.....	1							1															1		
Coremakers.....	1												1												
Engineers.....	1																								
Firemen.....	1					1					1					1									
Fishermen.....	3																						1		
Florists.....	1																								
Insurance Agents.....	1			1																					
Jewelers.....	3				2		1																		
Knitters.....	2						2																		
Laborers.....	6			1	1				1			1	1						1						
Loomfixers.....	2		1																				1		
Machinists.....	1																								
Mail Carriers.....	1																								
Marketmen.....	1																	1							









## RESULTS AND OBSERVATIONS.



## GENERAL SUMMARY.

The number of births registered in the State of Rhode Island, during the year 1905, was twelve thousand three hundred and five (12,305); the number of marriages, four thousand seven hundred and sixty (4,760); and the number of deaths, eight thousand two hundred and twelve (8,212).

TABLE XIII.

*General Results of Registration for Ten Years, 1854-1863, and for each of the last Forty-two years.*

Years.	Whole number		Living		Deaths.
	of Births.	Still-born.	Births.	Marriages.	
1854-1863.....	38,042.....	1,471.....	36,571.....	14,943.....	24,230.....
1864.....	3,892.....	138.....	3,754.....	1,844.....	3,360.....
1865.....	3,955.....	177.....	3,778.....	1,896.....	3,405.....
1866.....	4,902.....	172.....	4,710.....	2,318.....	2,970.....
1867.....	5,127.....	163.....	4,964.....	2,344.....	2,889.....
1868.....	5,372.....	212.....	5,160.....	2,285.....	2,912.....
1869.....	5,245.....	220.....	5,025.....	2,289.....	3,382.....
1870.....	5,215.....	234.....	4,981.....	2,362.....	3,238.....
1871.....	5,678.....	223.....	5,455.....	2,336.....	3,344.....
1872.....	6,143.....	202.....	5,941.....	2,537.....	4,247.....
1873.....	6,022.....	228.....	5,794.....	2,630.....	4,403.....
1874.....	6,466.....	277.....	6,189.....	2,541.....	4,229.....
1875.....	6,508.....	246.....	6,262.....	2,485.....	4,317.....
1876.....	6,329.....	224.....	6,105.....	2,253.....	4,116.....
1877.....	6,235.....	242.....	5,993.....	2,282.....	4,450.....
1878.....	6,714.....	248.....	6,466.....	2,324.....	4,441.....
1879.....	6,350.....	216.....	6,134.....	2,396.....	4,472.....
1880.....	6,295.....	192.....	6,103.....	2,769.....	4,829.....
1881.....	6,761.....	264.....	6,497.....	2,750.....	5,016.....
1882.....	6,825.....	253.....	6,572.....	2,634.....	5,074.....
1883.....	7,046.....	253.....	6,793.....	2,611.....	5,282.....
1884.....	7,305.....	272.....	7,033.....	2,558.....	5,141.....
1885.....	7,028.....	271.....	6,757.....	2,488.....	5,389.....
1886.....	7,621.....	293.....	7,328.....	2,750.....	5,849.....
1887.....	7,668.....	276.....	7,392.....	2,839.....	6,340.....
1888.....	7,840.....	295.....	7,545.....	3,022.....	6,594.....
1889.....	8,220.....	329.....	7,891.....	3,029.....	6,259.....
1890.....	8,750.....	296.....	8,254.....	3,195.....	6,934.....
1891.....	9,426.....	272.....	9,154.....	3,320.....	6,620.....

TABLE XIII.—Concluded.

Years.	Whole number		Living		Deaths.
	of Births.	Still born.	Births.	Marriages.	
1892.....	9,298.....	371.....	8,927.....	3,502.....	7,396
1893.....	10,048.....	412.....	9,636.....	3,544.....	7,440
1894.....	9,985.....	392.....	9,593.....	3,271.....	7,160
1895.....	10,249.....	367.....	9,882.....	3,497.....	7,535
1896.....	11,174.....	424.....	10,750.....	3,327.....	7,504
1897.....	11,218.....	423.....	10,795.....	3,137.....	7,110
1898.....	11,143.....	413.....	10,730.....	3,278.....	6,905
1899.....	11,220.....	389.....	10,831.....	3,433.....	7,458
1900.....	11,458.....	374.....	11,084.....	3,936.....	8,823
1901.....	11,761.....	469.....	11,292.....	3,846.....	7,966
1902.....	11,689.....	462.....	11,227.....	4,136.....	7,955
1903.....	12,287.....	506.....	11,781.....	4,473.....	8,642
1904.....	12,576.....	500.....	12,076.....	4,174.....	8,107
1905.....	12,791.....	486.....	12,305.....	4,760.....	8,212

During the period of fifty-two years there were recorded, in Rhode Island, 375,677 births, of which number 14,147 were still-born and 361,530 were living children.

During the same period there were recorded 138,344 marriages, or 276,688 persons married; and 261,945 deaths.

These results show that in every 26.6 births there was one still-born child, or that in every 1,000 births there were 38 still-born and 962 living children.

The same results also show that the ratio of whole number of living births to the whole number of persons married, and to the whole number of decedents, respectively, during the same period, was as follows:

	Of persons married.	Of Deaths.
For every 100 living births there were.....	76.5.....	and.....72.5

The number of births in 1905 was 229 in excess of that of the previous year; the number of marriages greater by 586, or 1,172 more persons married; and there was an increase of 105 deaths.

For every 100 births there were:

	Of persons married.	Of Deaths.
In 1901.....	68.1.....	and.....70.5
In 1902.....	73.7.....	and.....70.9
In 1903.....	75.9.....	and.....73.4
In 1904.....	69.1.....	and.....67.1
In 1905.....	77.4.....	and.....66.7

TABLE XIV.

*Comparative Exhibit of Births, Marriages, and Deaths in each Town in Rhode Island, in each of the Six Years, 1900-1905, and Excess of Births over the Deaths in 1905.*

TOWNS AND DIVISIONS OF THE STATE.	BIRTHS.					MARRIAGES.					DEATHS.					Excess of Births over Deaths.			
	1900.	1901.	1902.	1903.	1904.	1905.	1900.	1901.	1902.	1903.	1904.	1905.	1900.	1901.	1902.		1903.	1904.	1905.
Barrington.....	22	41	25	26	32	38	11	9	8	9	10	8	21	25	29	21	26	16	22
Bristol.....	154	142	147	136	171	142	37	31	49	60	53	54	170	121	122	150	132	180	38
Warren.....	185	147	174	182	191	196	37	53	37	58	72	64	106	94	99	106	106	100	96
Bristol County.....	361	330	346	344	394	376	85	93	94	127	135	126	297	240	250	277	264	296	80
Coxeury.....	133	160	158	160	137	193	26	25	27	23	37	23	105	114	96	99	105	106	187
East Greenwich.....	18	44	56	30	54	52	17	25	23	28	26	32	70	56	52	60	57	48	4
West Greenwich.....	12	9	7	11	11	5	1	1	1	1	1	1	18	6	12	10	7	13	8
Warwick.....	713	758	707	724	694	655	191	206	217	193	184	208	515	425	385	401	424	400	155
Kent County.....	876	971	928	925	896	905	235	257	268	245	248	264	708	601	545	570	593	567	338
Janestown.....	15	20	12	23	17	22	3	6	14	6	3	7	19	14	23	9	14	15	7
Little Compton.....	21	25	41	20	35	34	5	5	6	3	6	6	27	19	16	16	22	22	12
Middletown.....	33	34	26	25	42	42	1	3	9	5	4	6	22	14	16	17	11	19	23
Newport City.....	599	576	537	526	454	512	206	165	178	201	176	199	423	386	424	359	340	304	118
New Shoreham.....	13	13	17	18	19	12	10	13	8	8	8	16	33	14	20	24	23	21	-9
Portsmouth.....	37	54	43	46	79	61	14	6	11	8	8	12	34	31	33	39	33	32	19
Tiverton.....	66	60	73	72	90	89	18	14	18	25	17	18	52	69	76	69	49	55	34
Newport County.....	784	782	749	740	736	772	257	212	244	256	222	264	610	547	608	533	492	568	201



TABLE XIV.—Concluded.

TOWNS, AND DIVISIONS OF THE STATE.	BIRTHS.					MARRIAGES.					DEATHS.					Excess of Births over Deaths in 1906.			
	1900.	1901.	1902.	1903.	1904.	1905.	1900.	1901.	1902.	1903.	1904.	1905.	1900.	1901.	1902.		1903.	1904.	1905.
Burrillville.....	131	130	168	181	194	168	35	51	58	70	59	49	111	96	106	108	116	108	60
CENTRAL FALLS.....	610	516	545	607	540	646	161	154	152	161	110	145	352	300	287	339	478	364	282
Cranston*.....	280	285	294	326	290	290	66	47	82	62	125	98	188	194	186	226	284	192	98
Cumberland.....	236	238	214	223	240	286	60	83	65	83	60	69	154	143	151	143	151	154	132
East Providence.....	252	276	262	308	306	309	73	92	96	92	82	82	211	162	171	229	204	187	122
Foster.....	15	21	13	14	10	17	10	4	12	20	12	16	19	25	27	29	22	17	7
Glocester.....	23	28	35	35	28	32	11	7	5	9	9	17	32	30	25	39	25	25	7
Johnston.....	149	117	98	149	153	143	12	8	11	33	21	18	70	57	58	87	68	59	84
Lincoln.....	254	265	282	312	289	250	57	57	75	73	57	72	148	148	144	161	136	115	135
North Providence.....	59	43	60	66	75	83	6	4	3	7	6	21	42	46	50	49	51	45	38
North Smithfield.....	55	50	54	71	82	66	19	12	13	12	21	21	39	37	27	34	39	44	22
PAWTUCKET.....	1,025	1,019	959	1,034	1,061	1,110	418	375	366	444	363	482	792	667	737	664	687	728	382
PROVIDENCE CITY.....	4,503	4,696	4,719	4,935	5,158	5,210	1,900	1,875	2,041	2,238	2,089	2,444	3,678	3,444	3,394	3,895	3,593	3,474	1,736
Scituate.....	56	53	58	59	56	56	18	15	15	11	21	21	69	83	74	74	52	69	13
Smithfield.....	53	39	51	48	45	64	19	23	10	19	25	17	54	28	35	38	39	38	26
WOONSOCKET.....	960	988	1,006	1,006	1,035	1,058	283	287	305	294	291	321	556	479	546	489	465	491	567
PROVIDENCE COUNTY.	8,661	8,760	8,802	9,342	9,601	9,788	3,148	3,096	3,310	3,625	3,352	3,875	6,515	5,939	6,018	6,604	6,090	6,110	3,678
Charlestown.....	16	17	16	23	10	13	3	4	12	5	2	6	17	19	21	21	11	14	1
Exeter.....	8	4	3	6	10	4	9	7	7	7	5	6	18	15	5	5	10	14	8
Hopkinton.....	48	42	33	45	36	38	28	20	20	14	18	18	41	48	32	51	35	35	3
Narragansett.....	20	14	32	14	28	28	10	10	8	7	7	5	20	17	19	21	17	25	3
North Kingstown.....	68	75	66	73	68	73	26	28	30	25	32	30	72	72	52	65	71	83	10
North Smithfield.....	74	99	75	77	78	79	43	34	38	36	45	49	99	82	63	82	73	105	26
Richmond.....	25	23	19	18	13	10	4	7	7	4	8	9	28	26	27	29	27	30	20
Westerly.....	143	175	158	174	206	219	88	78	89	122	100	105	141	115	93	132	146	107	112
WASHINGTON COUNTY	402	449	402	430	449	464	211	188	220	220	217	228	439	394	312	411	394	407	57
STATE INSTITUTIONS.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	254	245	222	247	274	264	.....
WHOLE STATE.....	11,084	11,292	11,227	11,781	12,076	12,305	3,936	3,846	4,136	4,473	4,174	4,760	8,823	7,966	7,955	8,642	8,107	8,212	4,093

\* Exclusive of Deaths in State Institutions.

The varying numbers of the events of births, marriages, and deaths occurring in the different towns during each of the six years ending December 31, 1805, are very concisely presented in Table XIV, and a ready means is thereby afforded of comparing and studying the changes in the vital movements of the people in the different precincts during those years.

The actual increase of population in the State, for the ten years 1895 to 1905, was 95,324, or 24.8 per cent., or an annual average of two and five-tenths per cent. The increase by immigration must have been nearly twice as large as the natural increase.

TABLE XV.

*Births, Marriages, and Deaths in Rhode Island, in 1905, with the number and ratio of each in every 1,000 of the population of each town, and the ratio of excess of the births over the deaths in every 1,000 of the population.*

TOWNS AND DIVISIONS OF THE STATE.	Population in 1905.	Births.	Births per 1,000 of population.	Marriages.	Persons married per 1,000 of population.	Deaths.	Deaths per 1,000 of population.	Excess of Births per 1,000 of population.
Barrington.....	1,923	38	19.8	8	8.3	16	8.3	11.5
Bristol.....	7,512	142	18.9	54	14.4	180	24.0	-5.1
Warren.....	5,613	196	34.9	64	22.8	100	17.8	17.1
BRISTOL COUNTY.....	15,048	376	25.0	126	16.7	296	19.7	5.3
Coventry.....	5,698	193	33.9	23	8.1	106	18.6	15.3
East Greenwich.....	3,218	52	16.2	32	19.9	48	14.9	1.3
West Greenwich.....	474	5	10.5	1	4.2	13	27.4	-16.9
Warwick.....	24,773	655	26.4	208	16.6	400	16.1	10.3
KENT COUNTY.....	34,163	905	26.5	264	15.5	567	16.6	9.9
Jamestown.....	1,337	22	16.5	7	10.5	15	11.2	5.3
Little Compton.....	1,232	34	27.6	6	9.7	22	17.9	9.7
Middletown.....	1,581	42	26.6	6	7.6	19	12.0	14.6
NEWPORT CITY.....	25,039	512	20.4	199	15.9	394	15.7	4.7
New Shoreham.....	1,273	12	9.4	16	25.1	21	16.5	-7.1
Portsmouth.....	2,371	61	25.7	12	10.1	42	17.7	8.0
Tiverton.....	3,240	89	27.5	18	11.2	55	17.0	10.5
NEWPORT COUNTY.....	36,073	772	21.4	264	14.6	568	15.7	5.7
Burrillville.....	7,425	168	22.6	49	13.2	108	14.5	8.1
CENTRAL FALLS.....	19,446	646	33.2	145	14.9	364	18.7	14.5
Cranston*.....	14,932	290	19.4	98	13.1	192	12.8	6.6
Cumberland.....	9,378	286	30.5	69	14.7	154	16.4	14.1
East Providence.....	13,750	309	22.5	82	11.9	187	13.6	8.9
Foster.....	1,160	17	14.7	16	27.6	17	14.7	0.0
Glocester.....	1,557	32	20.6	17	21.8	25	16.1	4.5
Johnston.....	4,550	143	31.4	18	7.9	59	13.0	18.4
Lincoln.....	9,222	250	27.1	72	15.6	115	12.5	14.6
North Providence.....	3,816	83	21.8	6	3.1	45	11.8	10.0
North Smithfield.....	2,496	66	26.4	21	16.8	44	17.6	8.8
PAWTUCKET.....	43,381	1,101	25.6	482	22.2	728	16.8	9.8
PROVIDENCE CITY.....	198,635	5,210	26.2	2,444	24.6	3,474	17.5	8.7
Scituate.....	3,207	56	17.5	21	13.1	69	21.5	-4.1
Smithfield.....	2,267	64	28.2	17	15.0	38	16.8	11.4
WOONSOCKET.....	32,196	1,058	32.6	321	19.9	491	15.3	17.3
PROVIDENCE COUNTY.....	367,418	9,788	26.6	3,878	21.1	6,110	16.6	10.0
Charlestown.....	959	13	13.5	6	12.5	14	14.6	-1.1
Exeter.....	789	4	5.1	6	15.2	8	10.1	-5.0
Hopkinton.....	2,453	38	15.4	18	14.6	35	14.3	1.1
Narragansett.....	1,469	28	19.1	5	6.8	25	17.0	2.1
North Kingstown.....	4,046	73	18.0	30	14.8	83	20.5	-2.5
South Kingstown.....	5,224	79	15.1	49	18.8	105	20.1	-5.0
Richmond.....	1,421	10	7.0	9	12.7	30	21.1	-14.1
Westerly.....	8,381	219	26.1	105	25.1	107	12.8	13.3
WASHINGTON COUNTY.....	24,742	464	18.8	228	18.4	407	16.4	2.4
STATE INSTITUTIONS.....	2,638	.....	.....	.....	.....	264	100.1	.....
WHOLE STATE.....	480,082	12,305	25.6	4,760	19.9	8,212	17.1	8.5

\*Not including State Institutions.

In Table XV, on the preceding page, may be found the varying proportions of the number of births, marriages, and deaths to every 1,000 of the population in the various towns and cities in the State, as they occurred in 1905.

## BIRTHS.

### *Proportion to Population.*

In regard to births, the extreme range of proportion to population was from 5.1 in every 1,000, in Exeter, to 34.9 in Warren. Following Warren, in the line of largest proportion, are Coventry, with 33.9; Central Falls, with 33.2; and Woonsocket, with 32.6. Following Exeter, in the line of smallest proportion of births to population, are Richmond, with 7.0 in every 1,000; New Shoreham, with 9.4; and West Greenwich, with 10.5.

The proportions of births to population, in all the counties entire, and in the cities of Central Falls, Newport, Pawtucket, Providence, Woonsocket, and the whole State, during the last seven years, are as follows:

#### BIRTHS TO EVERY 1,000 PERSONS.

	1905.	1904.	1903.	1902.	1901.	1900.	1899
Bristol County.....	25.0	26.9	24.6	25.5	24.6	27.5	22.7
Kent County.....	26.5	26.9	29.3	30.1	31.9	29.2	27.8
Newport County.....	21.4	20.8	21.4	22.2	23.5	24.0	24.2
Newport City.....	20.4	18.6	22.6	23.7	25.7	27.2	26.7
Providence County.....	26.6	26.8	26.0	25.7	26.2	26.5	26.4
Central Falls.....	33.2	28.1	32.3	28.8	27.8	33.6	31.0
Pawtucket.....	25.6	25.0	23.1	23.2	25.2	26.1	26.1
Providence City.....	26.2	26.6	25.7	25.3	26.0	25.6	25.9
Woonsocket.....	32.6	33.0	31.9	34.1	33.9	34.0	29.5
Washington County.....	18.8	18.2	17.4	16.5	18.5	16.6	16.8
Whole State.....	25.6	25.8	25.3	25.1	25.8	25.9	25.6

## PERSONS MARRIED.

### *Proportion to Population.*

The proportion to the population of persons married can be more correctly shown in counties, or in cities and aggregates of towns, than in single towns.

The following summary will present the proportions in the manner suggested, for the last seven years:

## PERSONS MARRIED IN EVERY 1,000.

	1905.	1904.	1903.	1902.	1901.	1900.	1899.
Bristol County.....	16.7	18.4	18.2	13.8	13.9	12.9	11.3
Kent County.....	15.5	14.9	15.5	17.4	16.9	15.7	14.0
Newport County.....	14.6	12.6	14.8	14.5	12.8	15.8	13.5
Newport City.....	15.9	14.4	17.3	15.7	14.7	18.7	14.5
Providence County.....	21.1	16.3	20.2	19.3	18.5	19.3	17.3
Central Falls.....	14.9	11.5	17.4	16.1	16.6	17.7	15.4
Pawtucket.....	22.2	17.1	19.8	17.7	18.5	21.3	17.1
Providence City.....	24.6	21.5	23.3	21.9	20.8	21.6	20.1
Woonsocket.....	19.9	18.5	18.6	20.7	19.8	20.0	18.3
Washington County.....	18.4	17.6	17.8	18.0	15.5	17.5	13.2
Whole State.....	19.9	17.8	19.2	18.5	17.6	18.4	16.2

## DEATHS.

*Proportion to Population.*

The number of deaths, in proportion to the living population, varies considerably from year to year in the different towns. The smaller the towns the greater generally is the annual variation.

The highest rate occurred in West Greenwich, that is, 27.4 in every 1,000 of the population; followed by Bristol, 24.0; and Scituate with 21.5.

The lowest death rate was in Barrington, that is, 8.3 in every 1,000 of the population; followed by Exeter, with 10.1; and Jamestown, 11.2.

The following summary will give the ratios of mortality to the population in the cities and counties of the State, during the seven years ending December 31, 1905.

## DEATHS IN EVERY 1,000 OF POPULATION.

	1905.	1904.	1903.	1902.	1901.	1900.	1899.
Bristol County.....	19.7	18.0	19.8	18.4	17.9	22.6	17.6
Kent County.....	16.6	17.8	18.0	17.7	19.7	23.6	16.8
Newport County.....	15.7	13.9	15.4	18.1	16.5	18.7	17.6
Newport City.....	15.7	13.9	15.5	18.7	17.2	19.2	17.6
Central Falls.....	18.7	14.8	18.0	15.2	16.1	19.4	14.1
Pawtucket.....	16.8	16.1	14.8	17.8	16.5	20.2	14.4
Providence City.....	17.5	18.5	20.3	18.2	19.1	20.9	19.1
Woonsocket.....	15.3	14.8	15.5	18.5	16.5	19.7	18.6
Providence County.....	16.6	17.0	18.4	17.6	17.8	19.9	17.6
Washington County.....	16.4	16.0	16.6	12.8	16.2	18.2	14.1
Whole State.....	17.1	17.3	18.5	17.8	18.2	20.6	17.6

TABLE XVI.

*Proportion of Births, Marriages, and Deaths to the Population, in the Whole State, in each of the last thirty-seven years.*

YEARS.	Popu- lation.	BIRTHS.		MARRIAGES.		DEATHS.		
		Number.	Of popu- lation, one birth in every	Number.	Of popu- lation, one per- son mar- ried in every	Number.	Of popu- lation, one death in every	Deaths in every 1,000 of the popu- lation.
1869.....	211,380	5,245	40.3	2,289	46.2	3,382	62.5	16.0
1870.....	218,555	5,215	41.9	2,362	46.2	3,238	67.5	14.8
1871.....	225,968	5,676	39.8	2,336	48.4	3,344	67.6	14.8
1872.....	233,637	6,143	38.0	2,537	46.0	4,247	55.0	18.2
1873.....	241,561	6,022	40.1	2,630	45.9	4,403	54.8	18.2
1874.....	249,765	6,466	38.6	2,541	49.1	4,229	50.0	16.9
1875.....	258,239	6,508	39.7	2,485	52.0	4,317	59.8	16.7
1876.....	262,513	6,329	41.5	2,253	58.3	4,116	63.8	15.7
1877.....	266,850	6,235	42.8	2,282	58.4	4,450	60.0	16.7
1878.....	271,269	6,714	40.4	2,324	58.4	4,441	61.1	16.4
1879.....	275,753	6,350	43.4	2,396	57.5	4,472	61.7	16.2
1880.....	280,319	6,295	44.5	2,769	50.6	4,829	58.0	17.2
1881.....	284,960	6,761	42.1	2,750	51.8	5,016	56.8	17.6
1882.....	289,667	6,825	42.4	2,634	55.0	5,074	57.1	17.5
1883.....	294,460	7,046	41.8	2,611	56.4	5,282	55.7	17.9
1884.....	299,329	7,305	41.0	2,558	58.5	5,141	58.2	17.2
1885.....	304,284	7,028	43.3	2,488	61.2	5,389	56.5	17.7
1886.....	311,507	7,621	40.9	2,750	56.6	5,848	53.3	18.8
1887.....	318,907	7,668	41.6	2,839	56.2	6,340	50.3	19.9
1888.....	326,477	7,840	41.6	3,022	54.0	6,594	49.5	20.2
1889.....	334,223	8,220	40.7	3,029	55.2	6,259	53.4	18.7
1890.....	342,169	8,550	40.0	3,195	53.5	6,934	49.3	20.3
1891.....	350,292	9,426	37.2	3,320	52.8	6,620	52.9	18.9
1892.....	358,608	9,270	38.7	3,502	51.2	7,396	48.5	20.6
1893.....	367,125	10,048	36.5	3,544	51.9	7,440	49.3	20.2
1894.....	375,836	9,985	37.6	3,271	57.4	7,160	52.5	19.1
1895.....	384,758	9,882	38.9	3,497	55.0	7,535	51.1	19.6
1896.....	393,891	10,750	36.6	3,327	59.2	7,504	52.5	19.1
1897.....	403,245	10,795	37.4	3,137	64.3	7,110	56.7	17.6
1898.....	414,413	10,730	38.6	3,278	65.2	6,905	60.0	16.7
1899.....	422,620	10,831	39.0	3,433	61.5	7,458	56.7	17.6
1900.....	428,556	11,084	38.7	3,936	54.4	8,823	48.6	20.6
1901.....	437,888	11,292	38.8	3,846	56.9	7,966	55.0	18.2
1902.....	447,422	11,227	39.9	4,136	54.1	7,955	56.2	17.8
1903.....	466,210	11,781	39.6	4,473	52.1	8,642	53.9	18.5
1904.....	468,676	12,076	38.8	4,174	56.1	8,107	57.8	17.3
1905.....	480,082	12,305	39.0	4,760	50.4	8,212	58.5	17.1

During the ten years 1869-1878, the average annual birth rate was one birth to every 40.3 of the population, or 24.8 births in every 1,000; during the ten years 1879-1888, the average birth rate was one birth in every 42.2 of the population, or 23.7 in every 1,000, a falling off of a fraction over one birth in every 1,000 of the population.



From 1896 to 1905 the average annual birth rate was one birth in every 38.6 of the population, or 25.9 in every 1,000.

Previous to 1895 it was the custom to count still births among the living births in above table.

During the period of ten years 1869-1878, the average annual death rate was one in every 60.7 of the population, or 16.5 in every 1,000, according to the returns. During the ten years 1879-1888, the average annual death rate was one in every 55.3 of the population, or 18.1 in every 1,000 of the living. From 1896 to 1905, the average annual death rate was one in every 55.6 of the population, or 18.0 in every 1,000 of the living.

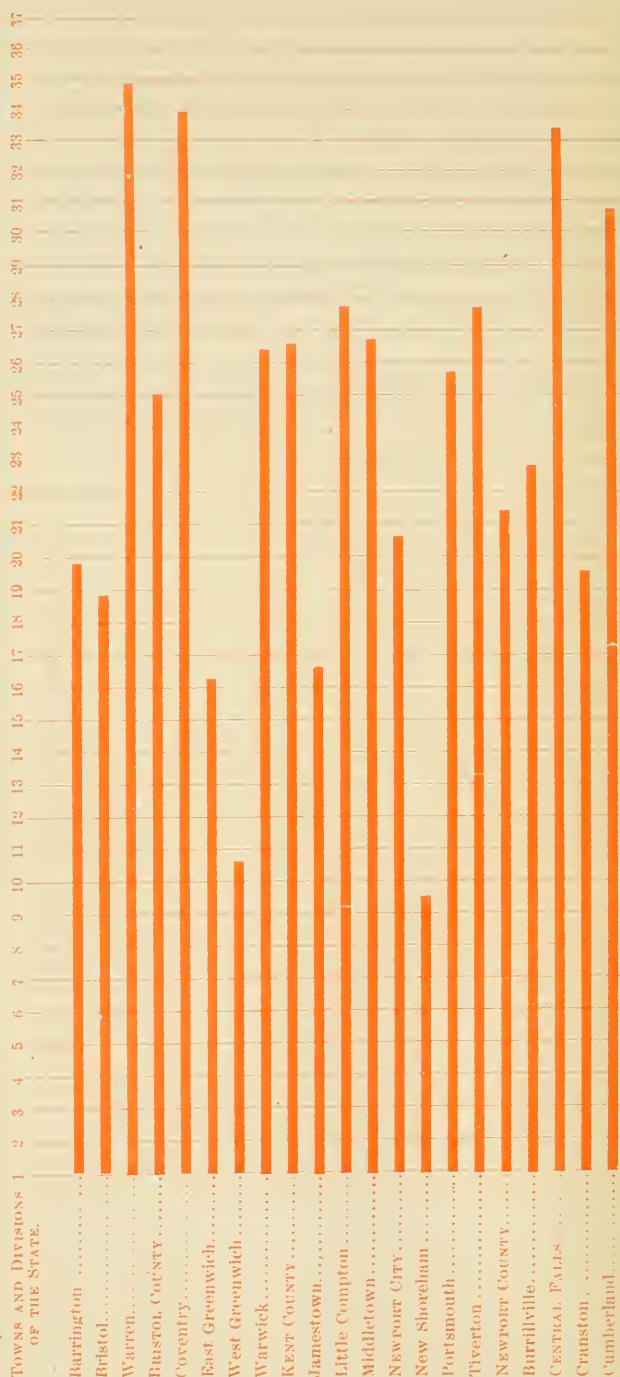
It must be remembered, however, that the returns during the last twenty years have been more complete than in previous years.

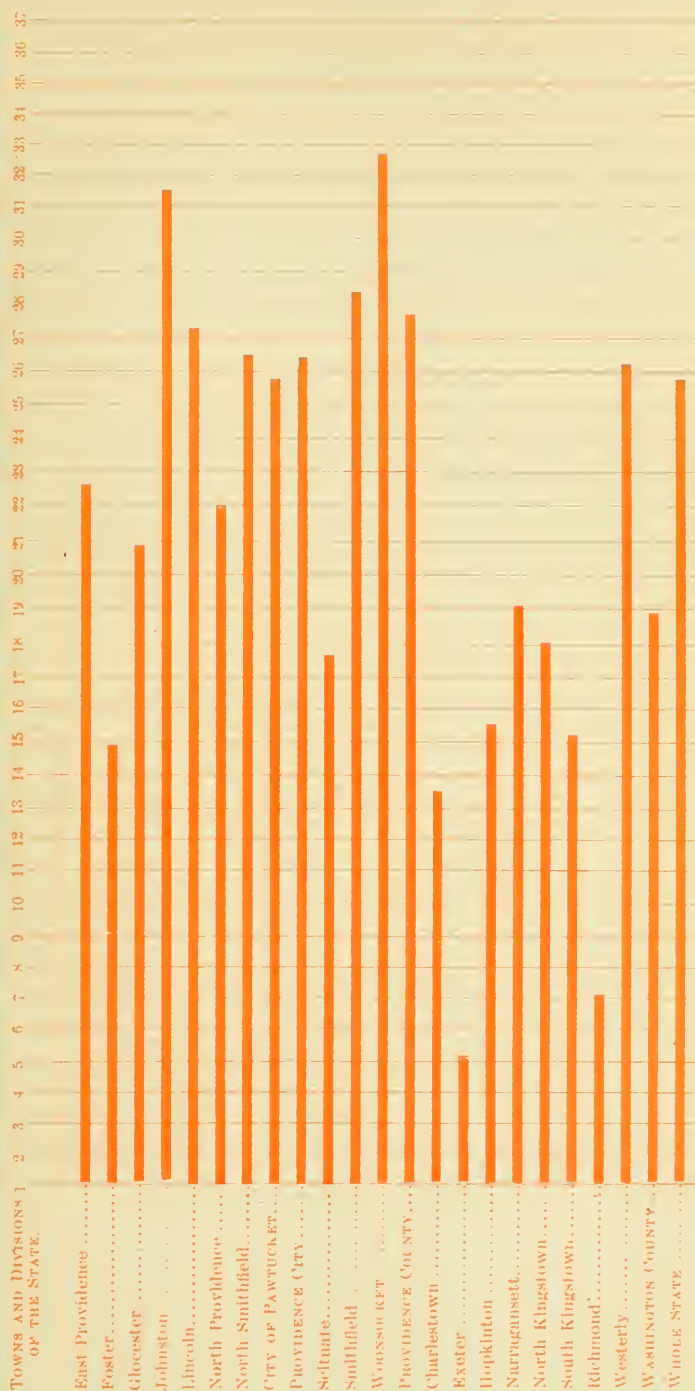


## BIRTH RATES.

Diagram I.—Showing the Number of Births in every 1,000 of the Population, in each Town and each County in the State, during the Year 1904, according to the Census of 1905.

For explanation see foot-note on next page.





The figures at the top of the perpendicular lines indicate, in whole numbers, the number of births during the year in every 1,000 persons. The spaces are fractional parts of one. For instance, the heavy horizontal line against Barrington, at the top of this diagram, reaches across eight tenths of the space between the perpendicular lines 19 and 20. It shows the birth rate of Barrington in 1905, was nineteen and eight tenths of the population.



## BIRTHS, 1905.

The general statistics of births in Rhode Island, during the year 1905, derived from the returns sent to the office of the State Registrar, may be found on pages 2 to 8, inclusive, in Tables I, II, and III.

The whole number reported is 12,305, as before stated, and shows an increase of 229 over the number in 1904.

### SEX OF THE CHILDREN.

Of the 12,305 children whose births were registered in 1905 there were 6,234 males and 6,071 females. This gives 103 males to each 100 females, or 506.6 males and 493.4 females in each 1,000 children.

The following table shows the number and sex, and the proportions of each sex, of the children born in Rhode Island, during the ten years 1854-1863, and in each of the last forty-two years:

TABLE XVII.

Years.	Males.	Females.	Males to each	Per 1,000
			100 Females.	Births. Males. Females.
1854-1863.....	19,386.....	18,686.....	103.6, or.....	508.8 and 491.2
1864.....	1,949.....	1,942.....	100.3, or.....	500.9 and 499.1
1865.....	2,096.....	1,857.....	112.9, or.....	530.2 and 469.8
1866.....	2,546.....	2,356.....	108.0, or.....	519.4 and 480.6
1867.....	2,665.....	2,464.....	107.0, or.....	518.7 and 481.3
1868.....	2,745.....	2,627.....	104.5, or.....	511.0 and 489.0
1869.....	2,685.....	2,560.....	104.9, or.....	511.9 and 488.1
1870.....	2,679.....	2,536.....	105.6, or.....	513.7 and 486.3
1871.....	2,878.....	2,800.....	102.8, or.....	506.9 and 493.1
1872.....	3,085.....	3,058.....	100.8, or.....	502.2 and 497.8
1873.....	3,135.....	2,887.....	108.6, or.....	520.6 and 479.4
1874.....	3,311.....	3,155.....	104.9, or.....	512.1 and 487.9
1875.....	3,362.....	3,146.....	106.9, or.....	516.6 and 483.4
1876.....	3,291.....	3,038.....	108.3, or.....	520.0 and 480.0
1877.....	3,163.....	3,072.....	103.0, or.....	507.3 and 492.7
1878.....	3,402.....	3,312.....	102.7, or.....	506.7 and 493.3
1879.....	3,259.....	3,091.....	102.4, or.....	513.2 and 486.8
1880.....	3,241.....	3,054.....	106.8, or.....	514.8 and 485.2
1881.....	3,498.....	3,263.....	107.2, or.....	517.3 and 482.7
1882.....	3,509.....	3,316.....	105.8, or.....	514.1 and 485.9
1883.....	3,548.....	3,498.....	101.4, or.....	503.5 and 496.5
1884.....	3,713.....	3,592.....	103.4, or.....	508.3 and 491.7
1885.....	3,591.....	3,437.....	104.4, or.....	510.3 and 489.7
1886.....	3,897.....	3,724.....	104.6, or.....	511.3 and 488.7
1887.....	3,968.....	3,700.....	107.2, or.....	517.5 and 482.5
1888.....	4,023.....	3,817.....	105.4, or.....	513.1 and 486.9
1889.....	4,193.....	4,027.....	104.1, or.....	510.0 and 490.0
1890.....	4,351.....	4,199.....	103.5, or.....	508.8 and 491.2



TABLE XVII.—Concluded.

Years.	Males.	Females.	Males to each 100		Per 1,000 Births.	
			Females.	Females.	Males.	Females.
1891.....	4,926.....	4,500.....	109.5, or.....	.....	522.6 and 477.4	.....
1892.....	4,765.....	4,505.....	105.8, or.....	.....	514.1 and 485.9	.....
1893.....	5,105.....	4,943.....	103.3, or.....	.....	508.1 and 491.9	.....
1894.....	5,129.....	4,856.....	105.6, or.....	.....	513.7 and 486.3	.....
1895.....	5,136.....	4,746.....	108.2, or.....	.....	519.7 and 480.3	.....
1896.....	5,461.....	5,289.....	103.3, or.....	.....	508.0 and 492.0	.....
1897.....	5,493.....	5,302.....	103.6, or.....	.....	508.8 and 491.2	.....
1898.....	5,443.....	5,287.....	102.9, or.....	.....	507.3 and 492.7	.....
1899.....	5,591.....	5,240.....	106.7, or.....	.....	516.2 and 483.8	.....
1900.....	5,625.....	5,459.....	103.0, or.....	.....	507.5 and 492.5	.....
1901.....	5,944.....	5,348.....	111.1, or.....	.....	526.4 and 473.6	.....
1902.....	5,776.....	5,451.....	106.0, or.....	.....	514.5 and 485.5	.....
1903.....	5,975.....	5,806.....	102.9, or.....	.....	507.2 and 492.8	.....
1904.....	6,175.....	5,901.....	104.6, or.....	.....	511.3 and 488.7	.....
1905.....	6,234.....	6,071.....	102.7, or.....	.....	506.6 and 493.4	.....

The average proportion for fifty-two years is 105 males to every 100 females. At the end of five years from birth the number of each sex is about equal, the males having a larger mortality during that period.

#### PROPORTION OF THE SEXES. *Localities.*

In Table II, on pages 6 and 7, will be found the number of children born in the different divisions of the State during the year 1905, together with the number of each sex.

The following table will give more concisely the whole number of children born, arranged according to sex and locality, and the proportion of male children to every 100 female children:

TABLE XVIII.

BIRTHS, 1905.	Bristol County.	Kent County.	Newport County.	Providence County Towns.	Washington County.	Newport City.	Central Falls.	Pawtucket.	Providence City.	Woonsocket.	Whole State.
Males.....	182	429	132	896	256	243	302	596	2,627	571	6,234
Females.....	194	476	128	868	208	269	344	514	2,583	487	6,071
Total.....	376	905	260	1,764	464	512	646	1,110	5,210	1,058	12,305
Males to each 100 females..	93.8	90.1	103.1	103.2	123.2	90.3	87.8	116.0	101.7	117.0	102.7

Compared with the previous year, the decrease in the proportion of male births in the whole State was 1.9 per cent.

The following table exhibits the proportions of births of the sexes for the past forty-three years in the larger divisions of the State and in the whole State:

TABLE XIX.

*Number of Males to each 100 Females.*

BIRTHS.	Bristol County.	Kent County.	Newport County.*	Providence County Towns.†	Providence City.	Washington County.	Whole State.
1863.....	120.0	98.4	97.0	101.8	111.4	108.7	105.8
1864.....	106.8	87.3	90.6	107.4	97.3	103.4	100.3
1865.....	119.3	118.2	108.8	118.8	113.8	88.1	112.9
1866.....	109.4	113.1	103.4	104.9	108.4	124.0	108.7
1867.....	115.5	98.3	117.8	106.3	104.5	120.4	107.7
1868.....	117.4	88.7	100.2	101.6	102.4	136.5	104.5
1869.....	115.7	116.7	102.7	98.0	107.5	120.6	104.9
1870.....	126.4	111.6	100.0	105.1	104.9	99.5	105.6
1871.....	131.8	97.9	132.5	100.8	95.2	113.3	102.8
1872.....	109.2	92.8	109.1	103.5	95.7	110.6	100.9
1873.....	129.2	113.0	117.9	104.5	109.0	104.7	108.6
1874.....	98.7	111.9	101.3	110.4	102.9	94.0	104.9
1875.....	95.2	103.1	97.7	104.3	109.1	134.3	106.7
1876.....	142.1	104.4	108.5	108.0	106.8	103.7	108.3
1877.....	138.7	102.4	98.5	100.3	104.9	95.3	103.0
1878.....	120.5	120.6	94.8	101.5	106.8	78.8	102.7
1879.....	124.3	95.5	103.6	105.4	105.7	106.3	105.4
1880.....	117.2	110.5	113.5	102.4	107.6	95.4	106.1
1881.....	91.2	111.3	102.0	105.9	109.0	115.7	107.2
1882.....	94.7	110.2	112.5	103.1	106.5	105.7	105.8
1883.....	94.0	97.6	97.0	103.5	102.2	102.2	101.4
1884.....	105.0	111.7	92.9	102.5	105.8	99.0	103.4
1885.....	132.2	107.3	8.0	104.8	103.6	104.3	104.4
1886.....	120.0	81.7	102.6	106.7	105.0	121.7	104.6
1887.....	115.1	121.7	106.6	103.9	107.9	106.7	107.2
1888.....	98.1	105.1	105.0	103.4	107.4	110.2	105.4
1889.....	81.9	122.0	107.5	103.6	101.4	110.2	104.1
1890.....	96.5	113.0	106.8	108.5	98.3	97.4	103.6
1891.....	107.1	110.4	118.4	107.0	109.1	106.4	109.5
1892.....	120.0	102.1	102.4	110.7	110.0	98.5	105.8
1893.....	90.7	101.8	97.7	104.1	104.1	109.0	105.8
1894.....	103.4	102.4	121.1	110.0	99.6	106.5	105.6
1895.....	118.4	116.3	100.8	105.0	109.6	115.6	108.2
1896.....	96.5	95.4	103.7	102.4	105.8	108.5	103.3
1897.....	101.2	108.4	97.5	103.9	104.4	96.2	103.6
1898.....	96.2	104.4	98.9	101.6	105.2	102.3	102.9
1899.....	121.9	103.2	114.0	106.8	102.9	129.2	106.7
1900.....	114.9	100.9	113.0	99.3	104.5	102.0	103.0
1901.....	132.4	116.7	117.8	111.0	112.2	96.1	111.1
1902.....	96.6	110.0	109.8	112.2	110.5	102.0	106.0
1903.....	108.5	91.9	105.6	102.6	104.8	100.9	102.9
1904.....	100.0	102.7	104.4	107.6	102.0	114.8	104.6
1905.....	93.8	90.1	94.5	106.9	101.7	117.0	102.7

\*Including city of Newport. †Including cities of Central Falls, Pawtucket, and Woonsocket.

There will be found in the following summary, in the aggregate, the average number of males to each 100 females, born during the forty-three years from 1863-1905, in the different divisions of the State:

Bristol County.....	111.1 males to each 100 females.
Kent County.....	105.1 males to each 100 females.
Newport County*.....	105.3 males to each 100 females.
Providence County Towns†.....	105.1 males to each 100 females.
Providence City.....	104.8 males to each 100 females.
Washington County.....	107.3 males to each 100 females.
Whole State.....	105.3 males to each 100 females.

### BIRTHS AND SEASON.

Table II, on pages 6 and 7 of this report, gives the number of births occurring in the different months of the year, in the several divisions of the State.

According to this table, the greatest number of births in any one month, in 1905, occurred in August, and the largest in any quarter in the third.

The following table shows the total number of children born in the State of Rhode Island, according to the returns, in each quarter of each of the last six years; and also the aggregate number and the percentage of the aggregate of each quarter in fifty-two years, from 1854 to 1905, inclusive:

TABLE XX.

QUARTERS.	1905.	1904.	1903.	1902.	1901.	1900.	1854-1905, inclusive.	
							Number.	Per cent.
January—March....	3,056	3,035	2,967	2,758	2,751	2,736	88,840	23.96
April—June.....	3,070	2,979	2,723	2,628	2,612	2,581	87,746	23.66
July—September...	3,120	3,182	3,052	2,937	3,010	2,921	97,056	26.17
October—December	3,059	2,880	3,039	2,904	2,919	2,846	97,194	26.21
Whole Year.....	12,305	12,076	11,781	11,227	11,292	11,084	370,836	100.00

Table XX presents results showing that, according to the registration of fifty-two years, the average proportions of births to the

\* Including city of Newport. † Including cities of Central Falls, Pawtucket, and Woonsocket.

whole number of births in the different quarters of the year were as follows:

January—March.....	239.6 in every 1,000 births.
April—June.....	236.6 in every 1,000 births.
July—September.....	261.7 in every 1,000 births.
October—December.....	262.1 in every 1,000 births.

The proportions of births in Rhode Island in the different quarters of the year, to the whole number of births in 1905, were as follows:

1. January—March.....	24.8 per cent., or.....	248 in every 1,000
2. April—June.....	25.0 per cent., or.....	250 in every 1,000
3. July—September.....	25.3 per cent., or.....	253 in every 1,000
4. October—December.....	24.9 per cent. or.....	249 in every 1,000

First six months.....	498 births in every 1,000 of whole number.
Second six months.....	502 births in every 1,000 of whole number.

#### BIRTHS. *Sex and Season.*

In Table II, on pages 6 and 7, will also be found the number of births of *each sex* by months, as they occurred in the different divisions of the State, during the year 1905. From it we ascertain the number of *each of the sexes* born during each quarter of the year, with their relative proportions, and also the aggregates and proportions of the same for the whole State.

The following table will present a summary of the quarterly periods, number of births, and proportions of the sexes, for the same year:

	Males.	Females.	Males to each	Per 1,000	
			100	each quarter.	
			Females.	Males.	Females.
1. January—March.....	1,582	1,474	107.3	518	482
2. April—June.....	1,568	1,502	104.4	511	489
3. July—September.....	1,572	1,548	101.6	504	496
4. October—December.....	1,512	1,547	97.7	494	506
<hr/>					
Whole Year.....	6,234	6,071	102.7	507	493

The following table shows the number of male children born to every 100 female children, in each quarter of the last five years; and also the proportion of births of male children to each 100 female children born during one period of ten years and five periods of five years each, from 1866 to 1900, inclusive:

TABLE XXI.

YEARS.	1905.	1904.	1903.	1902.	1901.	5 years, 1896 to 1900.	5 years, 1891 to 1895.	5 years, 1886 to 1890.	5 years, 1881 to 1885.	5 years, 1876 to 1880.	10 years, 1866 to 1875.
First Quarter..	107.3	107.9	107.9	104.3	111.4	103.8	104.6	104.3	105.8	106.0	104.1
Second Quarter	104.4	104.5	102.5	109.2	110.5	105.1	107.3	105.4	104.8	102.7	106.0
Third Quarter.	101.6	103.7	97.7	103.1	110.3	102.6	108.6	104.6	105.1	107.1	105.4
Fourth Quarter	97.7	102.5	104.0	107.6	112.3	104.2	105.8	106.5	102.5	108.2	105.7
Total Average..	102.7	104.6	102.9	106.0	111.1	103.9	106.5	105.2	104.5	106.2	105.2

The above table shows the variation of the proportions of the sexes in the different quarters in the different years, and seems to conclusively determine that season has very little, if any, influence in the causation of sex.

## PARENTAGE.

By reference to Table I, page 4, in the division of births, there will be found the parentage of the children born in Rhode Island during the year 1905. It will be seen that of the whole number, 12,305, there were 3,714 of native, 6,190 foreign, and 2,401 of mixed parentage.

By mixed parentage is meant the children born of native fathers and foreign mothers, and of foreign fathers and native mothers.

Of native fathers and foreign mothers there were 1,167, and of foreign fathers and native mothers, 1,234.

The following table will show the number and parentage of the children born in the State and the variations of the same from year to year, in each of the last three years; and also the number and variations occurring in three periods of five years each and three of ten years each, from 1858 to 1902, inclusive:

TABLE XXII.

PARENTAGE.	1905.	1904.	1903.	5 years, 1898 to 1902.	5 years, 1893 to 1897.	5 years, 1888 to 1892.	10 years, 1878 to 1887.	10 years, 1868 to 1877.	10 years 1858, 1867.
Native father and mother.....	3,714	3,542	3,605	16,931	16,762	16,511	29,170	23,645	20,321
Foreign father and mother.....	6,190	6,204	5,914	27,485	25,084	18,737	28,807	26,356	19,665
Native father, foreign mother.....	1,167	1,100	1,104	5,297	4,819	4,021	5,371	3,135	1,690
Foreign father, native mother.....	1,234	1,230	1,158	5,451	4,795	4,039	6,265	4,077	1,696
Parentage not stated.....	.....	.....	.....	.....	.....	.....	.....	.....	293
Total.....	12,305	12,076	11,781	55,164	51,460	43,306	69,613	59,213	43,665

The following table of *percentages* will show, in a different and perhaps clearer way, the same changes that have occurred in the proportions of the births in the different classes of parentage during the last three years, and during forty-five years, from 1858-1902, inclusive, in three periods of five years each, and three of ten years:

TABLE XXIII.

PARENTAGE.	1905.	1904.	1903.	5 years. 1898 to 1902.	5 years. 1893 to 1897.	5 years. 1888 to 1892.	10 years. 1878 to 1887.	10 years. 1868 to 1877.	10 years. 1858 to 1867.
Native father and mother.....	30.18	29.33	30.60	30.68	32.60	38.25	41.97	43.36	46.84
Foreign father and mother.....	50.31	51.37	50.20	49.83	48.73	43.14	41.40	44.53	45.36
Native father, for- eign mother.....	9.48	9.11	9.37	9.60	9.36	9.30	7.63	5.37	3.89
Foreign father, na- tive mother.....	10.03	10.19	9.83	9.87	9.31	9.31	9.00	6.74	3.91
Total.....	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

The registration of births, in 1905, is of interest as continuing to show, as usual, a smaller proportion of children born of native fathers than of foreign fathers. A considerable number of those recorded as native fathers were themselves children of foreign parents.

The percentage of children of mixed parentage was about the same, in 1905, as in the previous year.

The following table will present the percentages of children of native and foreign-born fathers, and of native and foreign-born mothers, respectively, in each of the last three years, and in each of three periods of five years each and three of ten years each, from 1858 to 1902, inclusive:

TABLE XIV.

CHILDREN WITH	1905.	1904.	1903.	5 years. 1898 to 1902.	5 years. 1893 to 1897.	5 years. 1888 to 1892.	10 years. 1878 to 1887.	10 years. 1868 to 1877.	10 years. 1858 to 1867.
Native fathers.....	39.67	38.44	39.97	40.30	41.96	47.56	49.65	48.73	50.73
Foreign fathers.....	60.33	61.56	60.03	59.70	58.04	52.44	50.35	51.27	49.26
Native mothers.....	40.21	39.52	40.43	40.57	41.91	47.57	50.85	50.10	50.75
Foreign mothers.....	59.79	60.48	59.57	59.43	58.09	52.43	49.15	49.90	49.25



The number of native fathers of children born, in 1905, was 2,543 less than the number of foreign fathers, and the number of native mothers was 2,409 less than of foreign.

### BIRTHS OF COLORED CHILDREN.

The number of births of children of colored parentage reported for the year 1905 is 221. This number is smaller by 21 than in 1904.

In regard to sex, the numbers and proportions were as follows, viz.: 104 males and 117 females; or 89 males to 100 females.

As the number of colored persons in the State is, according to the census of 1905, 13,658,\* the ratio of births in this class would be 16.2 per thousand, or 1 to each 61.8 colored inhabitants.

The following summary will show the changes that have occurred from year to year, in the proportions of the sexes of colored children born in Rhode Island, during the last thirty years:

Years.	Whole Number.	Males.	Females.	Males to each 100 Females.
1876-1885.....	1,762.....	849.....	913.....	93.0
1886.....	212.....	117.....	95.....	123.0
1887.....	211.....	111.....	100.....	111.0
1888.....	202.....	109.....	93.....	117.2
1889.....	194.....	87.....	107.....	81.3
1890.....	183.....	89.....	94.....	94.6
1891.....	173.....	86.....	87.....	98.9
1892.....	182.....	94.....	88.....	106.8
1893.....	203.....	91.....	112.....	81.3
1894.....	221.....	113.....	108.....	104.6
1895.....	221.....	117.....	104.....	112.5
1896.....	226.....	104.....	122.....	85.2
1897.....	206.....	100.....	106.....	94.3
1898.....	216.....	105.....	111.....	94.6
1899.....	201.....	105.....	96.....	109.4
1900.....	231.....	120.....	111.....	108.1
1901.....	252.....	125.....	127.....	98.4
1902.....	211.....	108.....	103.....	104.9
1903.....	208.....	108.....	100.....	108.0
1904.....	242.....	129.....	113.....	114.2
1905.....	221.....	104.....	117.....	88.9

The following table will show the location, number, sex, etc., of colored births during 1905:

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\* This does not include Chinese or Japanese.

TABLE XXV.

*Showing Number, Sex, etc., of Colored Births, 1805.*

TOWNS AND CITIES.	Whole Number.	Males.	Females.	COUNTIES.
Barrington.....	1	.....	1	
Bristol.....	1	.....	1	Bristol County..... 2
Warwick.....	3	1	2	Kent County..... 3
Jamestown.....	1	.....	1	
Little Compton.....	1	.....	1	
NEWPORT CITY.....	32	10	22	
Portsmouth.....	2	.....	2	Newport County..... 36
CENTRAL FALLS.....	2	2	.....	
East Providence.....	10	2	8	
North Smithfield.....	1	.....	1	
PAWTUCKET.....	1	.....	1	
PROVIDENCE CITY.....	149	80	69	Providence County.... 163
Charlestown.....	2	1	1	
Narragansett.....	1	.....	1	
North Kingstown.....	1	1	.....	
South Kingstown.....	9	4	5	
Westerly.....	4	3	1	Washington County... 17
WHOLE STATE.....	221	104	117	221

## NUMBER OF CHILD OF THE MOTHER.

In the following table will be found the number of the child of the mother born during 1905, that is, how many of the children born were reported as the first, second, or third child, etc., of their respective mothers. The statistics on this subject begin with the year 1857, and the following table includes the children reported during the last six years, and also the total for forty-nine years, 1857 to 1905, inclusive.

TABLE XXVI.

NUMBER OF THE CHILD OF THE MOTHER.	1900.	1901.	1902.	1903.	1904.	1905.	49 years, 1857-1905
First.....	2,640	2,851	2,819	3,056	3,058	3,165	87,886
Second.....	1,977	2,179	2,103	2,264	2,445	2,457	70,794
Third.....	1,616	1,589	1,503	1,707	1,811	1,808	54,535
Fourth.....	1,342	1,265	1,291	1,240	1,241	1,350	41,365
Fifth.....	978	972	1,010	961	975	949	30,939
Sixth.....	771	724	729	792	752	749	22,975
Seventh.....	531	528	553	556	546	538	16,507
Eighth.....	378	392	383	382	415	386	11,756
Ninth.....	289	247	274	254	264	298	7,994
Tenth.....	199	179	171	193	199	203	5,495
Eleventh.....	125	128	124	118	105	135	3,464
Twelfth.....	82	79	83	110	109	99	2,326
Thirteenth.....	63	53	56	42	52	62	1,361
Fourteenth.....	34	35	44	31	36	31	767
Fifteenth.....	24	16	22	24	18	26	414
Sixteenth.....	7	10	9	5	11	7	198
Seventeenth.....	2	4	2	6	1	5	104
Eighteenth.....	1	3	3	1	2	1	46
Nineteenth.....	1	.....	3	.....	1	2	32
Twentieth.....	1	1	.....	.....	1	.....	12
Twenty-first.....	.....	2	2	.....	.....	.....	9
Twenty-second.....	1	.....	.....	.....	.....	.....	4
Unstated.....	22	35	43	39	34	34	561
Total.....	11,084	11,292	11,227	11,781	12,076	12,305	359,544

There was an increase, in 1905, of 229 over the number of births in 1904.

There are varying differences in the proportions of all classes in the different years.

The proportion of each class to the whole number will be shown by the following table, which gives the percentage of the children born in each of the last four years who were respectively the first, second, third, etc., children of the mothers; and which will also give the average percentage of each class of births in each of the last four years, and also in two periods of ten years, and three periods of five years, comprising the thirty-five years from 1868 to 1902, inclusive:

NUMBER OF THE CHILD.	1905.	1904.	1903.	1902.	5 years, 1898 to 1902.	5 years, 1893 to 1897.	5 years, 1888 to 1892.	10 years, 1878 to 1887.	10 years, 1868 to 1877.
First.....	25.72	25.32	25.94	25.12	23.78	23.78	25.20	23.7	25.2
Second.....	19.97	20.25	19.22	18.73	18.85	19.90	19.77	19.1	20.6
Third.....	14.70	15.00	14.49	13.38	14.46	15.29	14.94	15.5	15.5
Fourth.....	10.97	10.28	10.52	11.50	11.77	11.45	11.10	11.7	11.4
Fifth.....	7.71	8.07	8.16	8.99	8.85	8.52	8.23	8.8	8.4
First to Fifth.....	79.07	78.92	78.33	77.72	77.71	78.94	79.24	78.8	81.1
Sixth and over, and unstated.....	20.93	21.08	21.67	22.28	22.29	21.06	20.76	21.2	18.9
Total.....	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0	100.0

TABLE XXVII.

*Showing the Ages of the Fathers and Mothers of Children Born in 1905.*

AGES OF FATHERS.	AGES OF MOTHERS.														No. of Fathers.
	14 years.	15 years.	16 years.	17 years.	18 years.	19 years.	20-25 years.	25-30 years.	30-35 years.	35-40 years.	40-45 years.	45-50 years.	50-55 years.	Unstated age.	
17 years.....					1										1
18 years.....			1	7	3	1	6								18
19 years.....		1	3	5	22	6	20								57
20-25 years.....		3	11	36	95	152	970	180	9	3	1				1,460
25-30 years.....		2	8	22	48	73	1,257	1,440	240	35	3				3,128
30-35 years.....			1	1	8	23	452	1,266	1,149	173	17	1	1		3,091
35-40 years.....				1	3	11	119	449	914	826	76	4			2,403
40-45 years.....	1				1	2	24	127	279	543	296	9			1,282
45-50 years.....							4	29	66	189	166	34			488
50-55 years.....						1	1	11	27	47	45	14			146
55-60 years.....								3	7	21	11	3			45
60-65 years.....							1		2	6	6				15
65-70 years.....							1		1	1	1				4
70-75 years.....									1						1
Unstated age.....		2	6	12	13	14	65	20	9	1	4		20		166
No. of mothers....	1	8	30	84	194	283	2,920	3,525	2,704	1,845	626	64	1	20	12,305

The nativity of the mothers under 19 years of age was as follows:

The one at 14 years was Italian.

Of the eight at 15 years, 6 were American, and 2 were Italian.

Of the thirty at 16 years, 22 were American, 1 English, 3 Italian, 1 Polish, and 3 Portuguese.

Of the eighty-four mothers at 17 years, 56 were American, 1 Austrian, 11 French Canadian, 1 Grecian, 1 Irish, 9 Italian, 1 Nova Scotian, 2 Portuguese, 1 Swedish, and 1 Syrian.

Of the one hundred and ninety-four at 18 years, 120 were American, 3 Armenian, 3 Austrian, 2 English, 2 French, 16 French Canadian, 1 Hungarian, 27 Italian, 2 Polish, 10 Portuguese, 1 Russian, 1 Scotch, 3 Swedish, 2 Syrian, and 1 Turkish.

	Number of Mothers.	Per cent.
Under twenty years.....	600.....	4.88
Twenty, and under twenty-five.....	2,920..	23.73
Twenty-five, and under thirty.....	3,525..	28.65
Thirty, and under thirty-five.....	2,704..	21.97
Thirty-five, and under forty.....	1,845..	14.99
Forty, and under forty-five.....	626..	5.09
Forty-five and over.....	65.....	.53
Unstated age.....	20.....	.16
Total.....	12,305	100.00

#### PLURALITY BIRTHS.

The general statistics in relation to plural births, in Rhode Island, may be found on page 8, Table III.

There were one hundred and forty-eight cases during the year, all of which were twins.

Of the 296 children of plural birth, 139 were males and 157 were females.

The cases occurred in the different divisions of the State as follows:

Bristol county, 4; Kent county, 2; Newport county,\* 7; Newport city, 7; Providence county towns,† 58; Providence city, 65; Washington county, 5.

The following exhibit will show the parentage of children of plural birth in Rhode Island, in 1905, and number of each:

\* Not including Newport city.

† Including Central Falls, Pawtucket, and Woonsocket.

Parents both native Americans.	47
Parents both born in Armenia.....	2
“ “ “ Austria.....	1
“ “ “ Canada (French).....	16
“ “ “ England.....	3
“ “ “ Finland.....	1
“ “ “ France.....	1
“ “ “ Germany.....	3
“ “ “ Ireland.....	14
“ “ “ Italy.....	19
“ “ “ Portugal.....	5
“ “ “ Russia.....	4
“ “ “ Scotland.....	2
“ “ “ Sweden.....	1
“ “ “ Syria.....	1
American father and British-American mother.	3
American father and English mother.....	3
America father and French-Canadian mother.....	2
American father and Irish mother.....	3
British-American father and American mother.	1
Danish father and Swedish mother.....	1
English father and American mother.....	2
English father and British-American mother.....	1
English father and French-Canadian mother.....	1
English father and Scotch mother.....	1
French-Canadian father and American mother.....	5
German father and English mother.....	1
Irish father and American mother.....	2
Italian father and American mother.....	1
Russian father and German mother.....	1

The months in which the plurality births occurred were as follows:

January.....15	April.....13	July.....11	October.....12
February.....8	May.....10	August.....15	November.....11
March.....15	June.....13	September.....6	December.....19
—	—	—	—
First Quarter.....38	Second Quarter...36	Third Quarter...32	Fourth Quarter...42
First half of the year.....74		Second half of the year.....74	
Total ..... 148			
Total children..... 296			

The general statistics of births, and number of *cases* reported in Rhode Island, during a period of fifty-two years, that is, from 1854 to 1905, inclusive, are as follows:



367,918 cases of single births.....	giving	367,626 children.
3,954 cases of twin births.....	giving	7,908 children.
37 cases of triple births.....	giving	111 children.
1 case of quadruple births.....	giving	4 children.

Of the whole number of *cases* of childbirth (371,910) during the fifty-two years, one in 94 produced twins, one in 10,052 produced triplets, and one in 371,910 produced quadruplets.

Of the whole number of children born during the same period (375,649), ascertained from the reports, one in every 47 was a twin; one in every 3,312 was a triplet.

Of the 3,992 *cases* of plurality births which have occurred in the State during the last fifty-two years, there were 1,405 cases in which both parents were natives; 1,976 cases in which both parents were foreign; 602 cases in which the parents were mixed, that is, one native and one foreign parent; and 9 in which the parentage was not stated.

The whole number of children born in plurality cases, during the fifty-two years, was 8,023, of whom 4,027 were males and 3,992 were females; the sex of the remaining four was not given.

#### STILL-BORN.

The whole number of still-born children reported in Rhode Island, for the year 1905, was 486; this number is smaller by 14 than for the year 1904.

The following are the numbers reported from the different divisions of the State:

Bristol County.....	20
Kent County.....	33
Newport County Towns.....	9
Newport City.....	32
Providence County Towns.....	62
Central Falls.....	18
Pawtucket.....	26
Providence City.....	217
Woonsocket.....	55
Washington County.....	14
<hr/>	
Whole State.....	486

The following table will give the number in each town from which still-births were reported, with the sex, parentage, and color:

TABLE XXVIII.

*Still-Born, 1905, Locality, Number, Sex, Parentage, and Color.*

TOWNS AND DIVISIONS OF THE STATE	Total.	sex.		PARENTAGE.		COLOR.	
		Males.	Females.	Native.	Foreign.	White.	Colored.
Barrington.....	3	2	1	.....	3	3	.....
Bristol.....	10	6	4	4	6	9	1
Warren.....	7	4	3	.....	7	7	.....
BRISTOL COUNTY.....	20	12	8	4	16	19	1
Coventry.....	4	4	.....	1	3	4	.....
East Greenwich.....	3	1	2	1	2	3	.....
Warwick.....	26	13	13	11	15	26	.....
KENT COUNTY.....	33	18	15	13	20	33	.....
Middletown.....	2	1	1	1	1	2	.....
NEWPORT CITY.....	32	19	13	21	11	28	4
Portsmouth.....	5	5	.....	3	2	5	.....
Tiverton.....	2	2	.....	.....	2	2	.....
NEWPORT COUNTY.....	41	27	14	25	16	37	4
Burrillville.....	4	4	.....	.....	4	4	.....
CENTRAL FALLS.....	18	8	10	4	14	18	.....
Cranston.....	24	14	10	9	15	24	.....
Cumberland.....	5	4	1	2	3	5	.....
East Providence.....	13	7	6	9	4	13	.....
Foster.....	2	2	.....	2	.....	2	.....
Glocester.....	1	1	.....	1	.....	1	.....
Johnston.....	2	2	.....	.....	2	2	.....
Lincoln.....	6	4	2	1	5	6	.....
North Providence.....	2	.....	2	1	1	2	.....
North Smithfield.....	1	1	.....	1	.....	1	.....
PAWTUCKET.....	26	18	8	11	15	25	1
PROVIDENCE CITY.....	217	135	82	91	126	199	18
Scituate.....	2	1	1	1	1	2	.....
Woonsocket.....	55	37	18	19	36	55	.....
PROVIDENCE COUNTY.....	378	238	140	152	226	359	19
Charlestown.....	2	1	1	2	.....	2	.....
Hopkinton.....	3	3	.....	2	1	3	.....
North Kingstown.....	3	3	.....	1	2	3	.....
South Kingstown.....	1	1	.....	1	.....	1	.....
Westerly.....	5	5	.....	2	3	5	.....
WASHINGTON COUNTY.....	14	13	1	8	6	14	.....
WHOLE STATE.....	486	308	178	202	284	462	24

## SUMMARY OF SEX OF STILL-BORN.

The following table shows the number and sex of the still-born children whose births were reported in Rhode Island during each of the last five years, and also of a period of fifty-two years, extending from January 1, 1854, to December 31, 1905:

TABLE XXIX.

SEX.	1905.	1904.	1903.	1902.	1901.	Jan. 1, 1854, to Dec. 31, 1905.
Males.....	308	289	306	267	251	8,322
Females.....	178	211	200	195	218	5,925
Total.....	486	500	506	462	469	14,247

The average proportions of the sexes of the still-born, for the period of fifty-two years, were as follows: In every 100 still-births there were about 58 males and 42 females.

*Season of Still-Births.*—During 1905 the proportions in relation to season, by percentage, were as follows:

First Quarter.....	28.81	Third Quarter.....	22.22
Second Quarter.....	24.28	Fourth Quarter.....	24.69
First half of the year.....	53.09	Last half of the year.....	46.91

The births of the still-born in the different months of the year, although somewhat variable in number, do not, as a rule, show great discrepancies.

## PARENTAGE OF THE STILL-BORN.

Of the 486 still-born children reported in 1905 there were 202 of native and 284 of foreign parentage, reckoned by the nativity of the fathers, that is, the father's name given; and 199 of native and 287 of foreign, reckoned by the nativity of the mothers, name of father given or not given.

## ILLEGITIMATES.

In the following table will be found the whole number of illegitimate births returned during 1905, with the sex, color, parentage, and locality of birth:

TABLE XXX.

*Illegimates, 1905.*

TOWNS	Whole Number.	SEX.		COLOR.		PARENTAGE.	
		Males.	Females.	White.	Black.	Native.	Foreign.
Bristol.....	2	2	.....	2	.....	2	.....
Coventry.....	1	.....	1	1	.....	1	.....
Warwick.....	4	1	3	4	.....	1	3
Middletown.....	1	.....	1	1	.....	1	.....
NEWPORT CITY.....	4	.....	4	3	1	4	.....
Portsmouth.....	1	1	.....	1	.....	.....	1
CENTRAL FALLS.....	3	2	1	3	.....	1	2
Cranston.....	7	5	2	7	.....	4	3
Cumberland.....	4	4	.....	4	.....	3	1
East Providence.....	3	.....	3	2	1	1	2
Foster.....	1	.....	1	1	.....	1	.....
PAWTUCKET.....	14	10	4	14	.....	6	8
PROVIDENCE CITY.....	90	37	53	71	19	57	33
WOONSOCKET.....	14	4	10	14	.....	8	6
Smithfield.....	1	1	.....	1	.....	1	.....
Narragansett.....	2	.....	2	1	1	2	.....
North Kingstown.....	2	1	1	2	.....	1	1
South Kingstown.....	2	.....	2	.....	2	2	.....
Westerly.....	4	1	3	3	1	3	1
Whole State.....	160	69	91	135	25	99	61

There were returns, during 1905, of 160 children of illegitimate parentage. The number is larger by 13 than that of the previous year.

Of the illegimates born during 1905, 69 were males and 91 were females; 135, or 84.4 per cent., were white, and 25, or 15.6 per cent.,

were colored; 99, or 61.9 per cent., were born of native mothers, and 61, or 38.1 per cent., of foreign-born mothers. Two of the 25 colored illegitimates were of foreign parentage; of the white illegitimates, 76 were born of native and 59 of foreign mothers.

The ages of the mothers were as follows:

Age	No. of Mothers.	Age.	No. of Mothers.
15.....	2	28.....	3
16.....	8	29.....	3
17.....	12	30.....	2
18.....	13	32.....	2
19.....	13	33.....	2
20.....	18	34.....	1
21.....	17	35.....	1
22.....	13	36.....	1
23.....	11	42.....	3
24.....	10	43.....	1
25.....	6	Not stated.....	3
26.....	9		
27.....	6	Total.....	160

Forty-five of these illegitimate births occurred at the Lying-in-Hospital, in the city of Providence, four at the State Almshouse, and one at the Newport Asylum.

The proportion of illegitimates to the whole number of births was one in every 77 cases, or 13 in every 1,000.

## MARRIAGES, 1905.

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The number of marriages registered in Rhode Island, during the year 1905, was 4,760. This number is larger by 586 than in 1904 and 287 larger than in 1903.

The general statistics of marriage, in 1905, in relation to season and number, in the different divisions of the State, may be found in Table IV, on the ninth page.

The statistics in relation to the proportion to population of persons married in 1905, in each of the towns and general divisions of the State, may be found in Tables XV and XVI, on pages 116 and 119.

The following table will present the number of marriages, and the ratio of marriage to population, in each year for a period of forty-six years, 1860 to 1905, inclusive:



TABLE XXXI.

YEARS.	Number Marriages.	Of Population, one Person Married in every	Persons Married per 1,000 of Population.	YEARS.	Number Marriages.	Of Population, one Person Married in every	Persons Married per 1,000 of Population.
1860.....	1,748	50.0	20.0	1883.....	2,611	54.4	18.3
1861.....	1,533	56.8	17.6	1884.....	2,558	58.1	17.2
1862.....	1,450	61.1	15.1	1885.....	2,488	61.3	16.3
1863.....	1,618	54.7	18.3	1886.....	2,750	56.5	17.7
1864.....	1,844	50.1	19.9	1887.....	2,839	55.8	18.0
1865.....	1,896	48.7	20.5	1888.....	3,022	53.5	18.7
1866.....	2,318	39.9	25.1	1889.....	3,029	57.8	17.3
1867.....	2,344	39.8	25.1	1890.....	3,195	54.1	18.4
1868.....	2,285	40.5	24.8	1891.....	3,320	53.5	18.5
1869.....	2,289	47.5	21.1	1892.....	3,502	52.4	19.1
1870.....	2,362	46.0	21.7	1893.....	3,544	53.6	18.7
1871.....	2,336	47.5	21.5	1894.....	3,271	57.4	17.4
1872.....	2,537	41.9	23.2	1895.....	3,497	55.0	18.2
1873.....	2,630	41.3	24.2	1896.....	3,327	59.2	17.0
1874.....	2,541	50.8	19.6	1897.....	3,137	64.3	15.6
1875.....	2,485	52.0	19.2	1898.....	3,278	63.2	15.8
1876.....	2,253	57.3	17.5	1899.....	3,433	61.6	16.2
1877.....	2,282	56.6	17.7	1900.....	3,963	54.4	18.4
1878.....	2,324	55.7	17.9	1901.....	3,846	56.9	17.6
1879.....	2,396	57.8	17.5	1902.....	4,136	54.1	18.5
1880.....	2,769	49.9	20.0	1903.....	4,473	52.1	19.2
1881.....	2,750	50.3	19.9	1904.....	4,174	56.1	17.8
1882.....	2,634	52.5	19.0	1905.....	4,760	50.4	19.9
				Annual average...			
				53.1			
				19.1			

## SEASON.

The following table will show the number and percentage of marriages in Rhode Island, in each month and each quarter of the year 1905, together with the aggregate number and percentage in each quarter for fifty-two years, viz., from 1854 to 1905, inclusive:

TABLE XXXII.

MONTHS.	Number of Marriages, each month, 1905.	Number of Mar- riages each Quar- ter, 1905.	Percentage of each Quarter total Marriages, 1905.	Number of Mar- riages per Quarter, 52 yrs., 1854-1905.	Percentage each Quar- ter 52 years.
January.....	350 }	1st Quarter. 904	18.99	1st Quarter. 28,984	20.95
February.....	310 }				
March.....	244 }				
April.....	263 }	2d Quarter... 1,252	26.30	2d Quarter.. 36,514	26.40
May.....	366 }				
June.....	623 }				
July.....	383 }	3d Quarter.... 1,223	25.70	3d Quarter.. 32,565	23.54
August.....	369 }				
September.....	471 }				
October.....	493 }	4th Quarter.. 1,381	29.01	4th Quarter.. 40,260	29.11
November.....	583 }				
December.....	305 }				
Total.....	.....	4,760	100.00	138,323	100.00

The largest number of marriages in any one month, during 1905, occurred in the month of June. For thirty-eight years previous to 1892 the greatest number of marriages was in the month of November. Since then, with the exception of in 1895, 1899, and 1902, the greatest number of marriages has been in the month of June.

During 1905 the proportions in the different quarters, from the largest to the smallest, were as follows: fourth quarter, 29.01 per cent.; second quarter, 26.30 per cent.; third quarter, 25.70 per cent.; first quarter, 18.99 per cent.

#### NATIVITY OF PERSONS MARRIED.

The following table shows the *number* of marriages, according to the nativities of the parties, for each of the last three years, and also for the aggregate of twenty-five years, from 1858 to 1882, inclusive; also for four periods of five years each, from 1883 to 1902:

TABLE XXXIII.

BIRTH-PLACE.	1905.	1904.	1903.	5 years, 1898 to 1902. Total.	5 years, 1893 to 1897. Total.	5 years, 1888 to 1892. Total.	5 years, 1883 to 1887. Total.	25 years, 1858 to 1882. Total.
United States.....	2,138	1,916	2,009	8,594	7,846	7,813	7,157	33,553
Foreign countries.....	1,475	1,342	1,427	5,574	5,318	4,973	3,601	13,753
Native groom, foreign bride..	544	453	483	2,274	1,785	1,637	1,323	3,488
Foreign groom, native bride .	603	463	554	2,187	1,827	1,645	1,165	3,876
Not stated.....								64
Total.....	4,760	4,174	4,473	18,629	16,776	16,068	13,246	54,734

It will be understood that in the above enumerations the *parent nativity* of the persons married is not considered, but the country where born.

Parties born in the United States, although children of foreign born parents, are reckoned as natives.

In the following table are given the *percentages* by birth, of native, foreign, and mixed marriages, in each of the last three years, and in the aggregate of twenty-five years, from 1858 to 1882, inclusive; also for four periods of five years each, from 1883 to 1902:

TABLE XXXIV.

BIRTH-PLACE.	1905.	1904.	1903.	5 years, 1898 to 1902.	5 years, 1893 to 1897.	5 years, 1888 to 1892.	5 years, 1883 to 1887.	25 years, 1858 to 1882.
United States.....	44.91	45.90	44.91	46.22	46.81	48.62	54.02	61.30
Foreign countries.....	30.99	32.15	31.91	29.88	31.65	30.95	27.19	25.13
Mixed nativity.....	24.10	21.95	23.18	23.90	21.54	20.43	18.79	13.5
Total.....	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

It will be of some interest to notice that by the exhibit of the two preceding tables it is shown that, although the marriages of the native born (whether the issue of foreign born parents or natives) have, as a rule, *increased in numbers*, they have also steadily *decreased in proportion*, with two or three exceptional years, that is, to

the whole number of marriages; while the marriages of the class of the exclusively foreign born have been, for the past thirty years, gradually increasing in proportion.

*Denominational.*—The 4,760 marriages in 1905 were performed by clergymen of various denominations, or by civil authority, as follows:

#### DENOMINATIONAL.

Roman Catholic.....	2,121
Baptist.....	572
Protestant Episcopal.....	551
Congregational.....	309
Methodist.....	292
United Presbyterian.....	184
Free Baptist.....	120
Lutheran.....	94
Universalist.....	93
Justices of the Supreme Court.....	89
Christian.....	86
Hebrew.....	82
Presbyterian.....	29
Seventh Day Baptist.....	23
Advent Christian.....	19
Primitive Methodist.....	19
Unitarian.....	18
Armenian.....	13
New Jerusalem.....	10
Advent.....	9
Greek.....	8
Evangelical.....	6
Friend's Ceremony.....	3
Second Advent.....	3
Latter Day Saints.....	2
Independent.....	2
Pentecostal.....	2
Unstated.....	1
<hr/>	
Total.....	4,760

## AGES OF THE MARRIED.

In the following table the varying ages of persons married during 1905 are presented:

TABLE XXXV.

AGES OF GROOMS.	AGES OF BRIDES.												Number of Grooms.
	Under 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	
Under 20.....	110	29	3	...	1	...	...	...	...	...	...	...	143
20 to 25.....	541	1059	154	22	5	3	...	...	...	...	...	...	1,784
25 to 30.....	179	651	464	98	16	3	2	1	...	...	...	...	1,414
30 to 35.....	41	181	218	149	28	8	2	1	...	...	...	...	628
35 to 40.....	10	53	105	100	60	22	8	1	1	...	...	...	360
40 to 45.....	2	13	37	39	43	26	9	5	1	...	...	...	175
45 to 50.....	3	6	10	20	21	21	15	7	...	...	...	...	103
50 to 55.....	...	5	6	7	12	14	14	4	1	2	...	...	65
55 to 60.....	1	1	3	2	4	12	6	7	2	2	...	...	40
60 to 65.....	...	...	1	...	2	3	4	5	5	4	1	2	27
65 to 70.....	...	...	...	...	...	1	5	...	4	...	...	...	10
70 to 75.....	...	...	...	...	...	1	1	3	3	...	1	...	9
75 to 80.....	...	...	...	...	...	...	...	...	...	...	2	...	2
Number of Brides..	887	1998	1001	437	192	114	66	33	18	8	2	4	4,760

The extreme discrepancies in the ages of some couples married in 1905 were not so frequent as in some previous years.

The same results in 1905, in relation to numbers in the different age periods, may be presented in a different and perhaps clearer way as follows:

TABLE XXXVI.

1905.	Under 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.
Males.....	143	1,784	1,414	628	360	175	103	65	40	27	10	9	2
Females.....	887	1,998	1,001	437	192	114	66	33	18	8	2	4	....
Total persons.....	1,030	3,782	2,415	1,065	552	289	169	98	58	35	12	13	2

The whole number of persons in each division of ages, of both sexes, married in Rhode Island in each of the last forty years, that is, from 1886 to 1905, inclusive, is presented in the following table:



TABLE XXXVII.

YEARS.	Under 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 70.	70 to 75.	75 to 80.	80 to 85.	85 to 90.	Not stated.
1866.....	693	1,931	1,025	419	213	127	81	59	25	21	12	1	...	...	...	23
1867.....	696	1,886	1,104	416	211	148	91	48	37	18	18	5	3	1	...	9
1868.....	644	1,835	1,050	432	219	133	82	61	30	29	11	8	4	...	...	32
1869.....	642	1,814	1,051	468	227	134	79	46	35	15	11	2	3	2	...	49
1870.....	744	1,833	1,084	415	216	159	86	64	26	24	12	3	2	...	...	6
1871.....	697	1,914	1,118	392	228	115	73	56	35	22	6	7	3	...	...	6
1872.....	786	2,073	1,182	434	237	131	81	61	43	21	13	6	1	...	...	5
1873.....	762	2,177	1,156	507	253	140	87	68	35	24	12	6	6	...	...	27
1874.....	770	1,992	1,179	459	268	159	101	52	36	39	8	9	1	...	...	9
1875.....	681	2,058	1,108	475	252	150	101	60	32	29	13	4	1	...	...	6
1876.....	691	1,741	1,041	450	224	154	80	53	27	19	12	1	2	...	...	9
1877.....	631	1,745	1,118	459	244	125	92	52	46	14	15	11	2	1	...	9
1878.....	618	1,832	1,123	441	259	162	74	49	39	20	17	2	4	...	...	8
1879.....	639	1,879	1,156	481	272	123	78	56	39	26	18	9	2	2	1	11
1880.....	688	2,301	1,262	556	329	163	91	65	33	27	15	3	3	1	...	1
1881.....	599	2,208	1,410	547	298	187	107	54	34	31	16	5	1	1	...	2
1882.....	498	2,125	1,377	563	301	161	102	57	36	27	11	5	3	2	...	...
1883.....	497	2,108	1,370	486	319	183	115	73	31	20	14	3	2	1	...	...
1884.....	484	2,027	1,289	569	307	152	114	64	48	30	23	6	3	...	...	...
1885.....	438	1,973	1,296	540	309	163	102	57	45	27	13	7	3	...	1	2
1886.....	505	2,133	1,552	603	283	174	103	73	24	26	18	5	1	...	...	...
1887.....	501	2,308	1,552	607	294	162	114	49	39	23	19	7	3	...	...	...
1888.....	582	2,427	1,608	640	330	207	105	60	36	17	23	7	2	...	...	...
1889.....	543	2,463	1,492	712	379	182	121	66	45	8	16	9	...	2	...	...
1890.....	596	2,693	1,632	673	320	206	102	69	41	29	20	7	2	...	...	...
1891.....	685	3,141	1,442	635	315	158	115	64	35	21	17	6	1	1	...	4
1892.....	668	3,011	1,729	732	389	201	122	60	35	30	14	4	3	...	...	6
1893.....	676	2,777	1,869	776	436	237	133	79	47	39	9	8	...	1	1	...
1894.....	613	2,760	1,613	680	375	183	150	74	39	29	17	3	5	1	...	...
1895.....	607	2,763	1,887	767	417	227	142	83	49	22	12	13	4	1	...	...
1896.....	617	2,647	1,841	713	352	204	124	61	45	24	18	5	3	...	...	...
1897.....	542	2,490	1,746	659	359	184	125	81	38	22	15	9	3	1	...	...
1898.....	579	2,639	1,795	675	394	187	127	82	38	20	10	7	3	...	...	...
1899.....	587	2,720	1,871	810	361	201	149	59	54	31	11	8	3	1	...	...
1900.....	729	2,982	2,155	935	444	240	155	103	74	24	24	6	1	...	...	...
1901.....	692	3,001	2,144	870	441	228	146	85	41	43	20	8	3	...	...	...
1902.....	815	3,217	2,225	890	497	250	142	86	63	37	30	13	4	2	1	...
1903.....	852	3,549	2,437	1,016	477	262	157	88	46	28	24	4	6	...	...	...
1904.....	754	3,212	2,186	967	553	279	164	104	67	35	16	11	...	...	...	...
1905.....	1,030	3,782	2,415	1,065	552	289	169	98	58	35	12	13	2	...	...	...

In the following table will be found the number and proportion of the persons married under 20 years of age, both sexes, in ten periods of five years each, from 1856 to 1905, inclusive; for the whole period of fifty years, and the years 1901, 1902, 1903, 1904, and 1905 given separately:

TABLE XXXVIII.

5-YEAR PERIODS.	Total number of persons married.	Persons married under 20.	Percentage under 20.
1856-1860.....	15,838	3,294	20.79
1861-1865.....	16,682	2,406	14.42
1866-1870.....	23,196	3,419	14.74
1871-1875.....	25,058	3,696	14.75
1876-1880.....	24,048	3,267	13.59
1881-1885.....	26,082	2,516	9.65
1886-1890.....	29,670	2,727	9.19
1891-1895.....	34,268	3,049	9.48
1896-1900.....	34,226	3,254	8.92
1901-1905.....	42,778	4,143	9.68
50 years, 1856-1905.....	271,846	31,771	11.69
1901.....	7,692	692	9.00
1902.....	8,272	815	9.85
1903.....	8,946	852	9.52
1904.....	8,348	754	9.03
1905.....	9,520	1,030	10.82
Per cent., first fifteen years.....			16.37
Per cent., second fifteen years.....			12.60
Per cent., third fifteen years.....			9.20
Per cent., last five years.....			9.68

## PROPORTION TO SEX.

Table exhibiting the percentages of GROOMS in each division of ages, in each of the last forty-six years:

TABLE XXXIX.

YEARS.	Under 20.	20 to 25.	25 to 30.	30 to 40.	40 to 50.	50 and over.	Total.
GROOMS.							
1860.....	5.0	42.8	26.9	16.3	5.7	3.3	100.0
1861.....	4.6	44.5	25.4	15.5	5.8	4.2	100.0
1862.....	4.2	37.8	27.9	18.3	5.9	5.9	100.0
1863.....	3.5	38.0	29.6	17.2	5.8	5.9	100.0
1864.....	4.3	38.8	27.3	17.9	7.4	4.3	100.0
1865.....	3.5	37.0	28.4	18.9	7.5	4.7	100.0
1866.....	5.3	40.9	27.0	16.4	6.3	4.1	100.0
1867.....	4.3	40.1	27.9	16.8	6.8	4.1	100.0
1868.....	4.1	39.9	28.2	17.1	6.1	4.6	100.0
1869.....	4.3	39.6	27.7	18.5	6.1	3.8	100.0
1870.....	4.8	40.4	28.1	16.0	6.4	4.3	100.0
1871.....	5.3	40.1	28.9	16.5	4.9	4.3	100.0
1872.....	4.3	41.3	28.2	16.6	5.2	4.4	100.0
1873.....	3.8	42.4	26.7	17.0	6.0	4.1	100.0
1874.....	4.1	40.4	27.2	17.5	6.4	4.4	100.0
1875.....	3.5	40.9	27.8	17.6	6.1	4.2	100.0
1876.....	5.1	37.5	28.6	17.9	5.6	4.3	100.0
1877.....	4.3	36.0	30.2	18.7	5.9	6.9	100.0
1878.....	3.9	38.5	29.0	18.0	6.3	4.3	100.0
1879.....	3.9	37.8	28.8	19.3	5.4	4.8	100.0
1880.....	3.6	38.9	27.5	19.9	5.8	4.3	100.0
1881.....	2.8	37.2	29.7	19.5	6.8	4.0	100.0
1882.....	2.2	36.0	31.4	20.0	6.1	4.3	100.0
1883.....	2.9	36.2	31.7	17.7	7.2	4.3	100.0
1884.....	2.5	36.2	29.1	21.1	6.2	5.0	100.0
1885.....	2.6	34.7	30.2	20.9	6.8	4.8	100.0
1886.....	2.5	35.2	31.9	19.6	6.8	4.0	100.0
1887.....	1.7	37.1	31.6	19.6	6.2	3.8	100.0
1888.....	2.8	36.1	31.1	19.8	6.5	3.7	100.0
1889.....	2.3	37.6	27.8	21.3	6.6	4.4	100.0
1890.....	3.3	36.9	30.8	18.9	6.1	4.0	100.0
1891.....	3.2	44.7	26.4	17.2	5.2	3.3	100.0
1892.....	2.3	40.1	29.3	19.0	6.1	3.2	100.0
1893.....	2.9	35.3	30.7	21.0	6.3	3.8	100.0
1894.....	3.0	37.4	29.3	19.9	6.8	3.6	100.0
1895.....	2.2	36.0	30.6	21.0	6.3	3.9	100.0
1896.....	2.1	35.5	33.2	19.6	6.1	3.5	100.0
1897.....	2.3	35.5	32.6	19.3	6.3	4.0	100.0
1898.....	2.4	36.4	31.8	19.8	6.1	3.5	100.0
1899.....	2.3	35.0	30.9	21.6	6.6	3.6	100.0
1900.....	2.4	33.6	32.0	21.6	6.2	4.2	100.0
1901.....	2.1	35.3	31.4	21.5	6.1	3.6	100.0
1902.....	2.5	35.7	31.7	20.4	5.9	3.8	100.0
1903.....	2.5	35.4	32.1	21.1	5.9	3.0	100.0
1904.....	2.3	35.2	30.0	22.3	6.1	4.1	100.0
1906.....	3.0	37.5	29.7	20.8	5.8	3.2	100.0

Table exhibiting the percentages of BRIDES in each division of ages, in each of the last forty-six years:

TABLE XL.

YEARS.	Under 20.	20 to 25.	25 to 30.	30 to 40.	40 to 50.	50 and over.	Total.
1860.....	25.8	44.1	17.0	9.1	2.6	1.4	100.0
1861.....	29.6	42.0	15.2	7.8	4.1	1.3	100.0
1862.....	24.9	41.3	16.7	11.8	4.1	1.2	100.0
1863.....	24.9	42.6	16.9	9.8	4.1	1.7	100.0
1864.....	24.2	43.4	17.8	10.3	2.9	1.4	100.0
1865.....	22.6	43.3	19.1	11.0	3.5	1.5	100.0
1866.....	24.7	42.9	17.4	11.0	2.7	1.3	100.0
1867.....	25.4	40.5	19.3	10.0	3.4	1.4	100.0
1868.....	24.4	40.9	18.1	11.6	3.3	1.7	100.0
1869.....	24.1	40.5	18.7	12.1	3.4	1.2	100.0
1870.....	26.8	39.4	17.9	10.8	3.9	1.2	100.0
1871.....	24.6	41.9	19.1	10.1	3.1	1.2	100.0
1872.....	26.7	40.5	18.4	9.9	2.2	1.3	100.0
1873.....	25.3	40.8	17.5	12.0	2.7	1.7	100.0
1874.....	26.3	38.1	19.3	11.1	3.9	1.3	100.0
1875.....	23.9	42.1	16.8	11.8	4.0	1.4	100.0
1876.....	25.6	39.8	17.6	12.0	3.7	1.3	100.0
1877.....	23.4	40.4	18.8	12.1	3.6	1.7	100.0
1878.....	22.7	40.4	19.3	12.2	8.8	1.6	100.0
1879.....	22.8	40.7	19.4	12.1	3.0	2.0	100.0
1880.....	21.1	44.2	18.0	12.0	3.3	1.4	100.0
1881.....	19.0	43.0	21.5	11.2	3.8	1.5	100.0
1882.....	16.7	44.8	20.9	12.6	3.9	1.1	100.0
1883.....	16.2	44.2	20.6	13.2	4.3	1.5	100.0
1884.....	16.4	43.0	21.3	13.2	4.2	1.9	100.0
1885.....	14.9	44.6	21.8	13.2	3.8	1.7	100.0
1886.....	15.8	42.4	24.5	12.5	3.3	1.5	100.0
1887.....	15.9	44.1	22.8	12.1	3.5	1.6	100.0
1888.....	16.4	44.3	22.1	12.4	3.7	1.1	100.0
1889.....	15.1	43.7	21.5	14.7	3.4	1.6	100.0
1890.....	15.4	47.3	20.4	12.0	3.6	1.3	100.0
1891.....	17.4	49.9	17.0	11.4	3.1	1.2	100.0
1892.....	16.8	45.9	20.1	13.0	3.1	1.1	100.0
1893.....	16.2	43.0	22.0	13.3	4.1	1.4	100.0
1894.....	15.7	47.0	20.0	12.3	3.4	1.6	100.0
1895.....	15.2	43.0	23.4	12.8	4.3	1.3	100.0
1896.....	16.4	44.1	22.1	12.4	3.8	1.2	100.0
1897.....	14.9	43.9	23.1	13.2	3.5	1.4	100.0
1898.....	15.3	44.1	22.9	12.9	3.4	1.4	100.0
1899.....	14.8	44.3	23.6	12.5	3.6	1.2	100.0
1900.....	16.2	42.1	22.7	13.4	3.9	1.7	100.0
1901.....	15.8	42.8	23.5	12.6	3.7	1.6	100.0
1902.....	17.2	42.1	22.1	13.1	3.5	2.0	100.0
1903.....	16.6	43.9	22.4	12.3	3.4	1.4	100.0
1904.....	15.7	41.7	22.5	14.2	4.5	1.4	100.0
1905.....	18.6	42.0	21.0	13.2	3.8	1.4	100.0

It will be noticed in the preceding tables that the proportions of persons married of both sexes, under 20 years of age, largely decreased during the last decade, but in the last year there has been an increase in the proportion of males as well as females who have been married under 20 and between the ages of 20 and 25 years over that of the previous year, and a proportionate decrease in the other age periods.

#### NUMBER OF TIMES MARRIED.

There will be found in the following table the number of grooms and of brides who were married for the first, second, third, etc., time in 1905.

TABLE XLI.

	First Marriage.	Second Marriage.	Third Marriage.	Fourth Marriage.	Total.
Grooms.....	4,256	469	32	3	4,760
Brides.....	4,259	482	17	2	4,760

The proportion of *grooms* married for the first time, in 1905, was 89.4 per cent. of the whole number, and the proportion of *brides* married for the first time was 89.5 per cent.

The following table will show not only the number of times each of the parties was married, but also the number of bachelors and widowers who married spinsters, the number who married widows of first or second widowhood, etc., and of spinsters and widows who married bachelors, and widows of the second, third, or fourth marriage, etc.:

TABLE XLII.

GROOMS.	BRIDES.				Total Grooms.
	First Marriage.	Second Marriage.	Third Marriage.	Fourth Marriage.	
First Marriage.....	3,985	266	5	.....	4,256
Second Marriage.....	260	199	9	1	469
Third Marriage.....	14	14	3	1	32
Fourth Marriage.....	.....	3	.....	.....	3
Total Brides.....	4,259	482	17	2	4,760

It will be seen, by Table XLII, that 271 bachelors married widows, 5 of whom had been twice married. Of the 504 widowers who married in 1905, 274 married spinsters and 230 married widows.

#### MARRIAGES OF PERSONS OF COLOR.

The number of marriages of persons of color in Rhode Island, in 1905, was 128. This includes four marriages in which one of the parties was white. The number and color of the individuals were, therefore, 252 persons of color and 4 persons white. The white persons were females. The marriages, however, may be properly included in the above class, inasmuch as the offspring of such marriages are persons of color.

The number reported during 1905, from the different towns, was as follows, viz.:

Bristol.....	1
East Greenwich.....	4
Warwick.....	3
Newport City.....	9
New Shoreham.....	1
Tiverton.....	1
Central Falls.....	1
Pawtucket.....	5
Providence City.....	87
Charlestown.....	1
South Kingstown.....	5
Westerly.....	10
Total.....	128

There were also 10 marriages of Chinese with white women.



## MARRIAGES OF THE DIVORCED.

The following table will give the towns from which returns of marriage with the facts of divorce were reported during 1905, the whole number of marriages of divorced persons, whether of one or both parties; also whether the second or third marriage of the divorced groom or bride:

TABLE XLIII.

TOWNS.	Number of Marriages.	Number of Divorced Persons Married.	Grooms.	Brides.	Second Marriage of Groom.	Third Marriage of Groom.	Fourth Marriage of Groom.	Second Marriage of Bride.	Third Marriage of Bride.	Fourth Marriage of Bride.
PROVIDENCE CITY.....	164	179	87	92	83	3	1	91	1	.....
Bristol.....	3	3	.....	3	.....	.....	.....	3	.....	.....
Warren.....	2	2	.....	2	.....	.....	.....	2	.....	.....
Coventry.....	2	2	1	1	1	.....	.....	1	.....	.....
East Greenwich.....	3	3	1	2	1	.....	.....	2	.....	.....
Warwick.....	7	8	5	3	4	1	.....	3	.....	.....
NEWPORT CITY.....	11	12	2	10	1	.....	1	9	1	.....
New Shoreham.....	3	3	1	2	1	.....	.....	2	.....	.....
Tiverton.....	1	1	1	.....	1	.....	.....	.....	.....	.....
Burrillville.....	4	4	1	3	1	.....	.....	3	.....	.....
CENTRAL FALLS.....	6	8	3	5	2	1	.....	4	1	.....
Cranston.....	3	5	3	2	3	.....	.....	2	.....	.....
Cumberland.....	4	4	3	1	3	.....	.....	1	.....	.....
East Providence.....	4	5	3	2	3	.....	.....	2	.....	.....
Glocester.....	3	4	2	2	2	.....	.....	2	.....	.....
Johnston.....	1	2	1	1	.....	1	.....	1	.....	.....
North Providence.....	1	1	.....	1	.....	.....	.....	1	.....	.....
North Smithfield.....	2	2	2	.....	2	.....	.....	.....	.....	.....
PAWTUCKET.....	24	27	12	15	12	.....	.....	15	.....	.....
Scituate.....	1	1	1	.....	1	.....	.....	.....	.....	.....
Smithfield.....	3	4	3	1	2	1	.....	1	.....	.....
WOONSOCKET.....	7	7	2	5	2	.....	.....	5	.....	.....
Hopkinton.....	1	1	1	.....	1	.....	.....	.....	.....	.....
South Kingstown.....	6	6	3	3	3	.....	.....	3	.....	.....
Richmond.....	1	1	.....	1	.....	.....	.....	1	.....	.....
Westerly.....	4	4	1	3	1	.....	.....	3	.....	.....
Total.....	271	299	139	160	130	7	2	157	3	.....

There were 271 marriages, in 1905, in which one or both of the parties had been divorced.

The proportion of the *number of marriages* of which one or both of the parties had been divorced, to the whole number of marriages, was 5.7 per cent., or 1 in every 17.6.

But the proportion of divorced *persons* married during 1905, to the whole number of persons married in the same year, was about 1 in every 32, or 3.1 per cent., or 31 in every 1,000.

The number of divorced persons married, in 1905, was greater by 40 than in the previous year.

These 271 marriages of divorced persons were performed by clergymen of the different denominations, or by civil authority, as follows:

Baptist.....	73	Hebrew.....	3
Congregational.....	41	Lutheran.....	2
Methodist.....	29	Unitarian.....	2
Free Baptist.....	19	Presbyterian.....	2
Universalist.....	19	Advent.....	2
United Presbyterian.....	16	Seventh Day Baptist.....	2
Christian.....	15	Pentecostal.....	1
Roman Catholic.....	8	New Jerusalem.....	1
Protestant Episcopal.....	6	Union.....	1
Advent Christian.....	4	Justices of Supreme Court.....	21
Primitive Methodist.....	4		

*Marriage and Education.*—Of the number of persons married, in 1905, 681 signed their marriage certificates with a mark. The following will show the number of males and females who did so, and their nativity:

	Whole Number.	Native.	Foreign.
Males.....	278	23	255
Females.....	403	39	364
Total.....	681	62	619

## DIVORCES, 1905.

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According to the returns made to the Secretary of the State Board of Health (State Registrar) by the clerks of the Supreme Courts of the different counties of Rhode Island, the number of applications for divorce, during 1905, was six hundred and fifty-nine (659).

The number of divorces granted, during 1905, was three hundred and eighty-two (382).

There were 12 less applications during 1905 than during the preceding year, and the number of divorces granted was 100 less.

Divorces are decreed for the following seven statute causes, viz.:

1. Adultery.
2. Extreme cruelty.
3. Willful desertion for five years of either of the parties, or for a shorter period, in the discretion of the court.
4. Continued drunkenness.
5. Neglect or refusal to provide necessities (having ability) for the subsistence of a wife.
6. Gross misbehavior and wickedness other than aforesaid.
7. Impotency.

Divorces are also decreed, or marriages set aside, in the discretion of the court, for ascertained affinity, consanguinity, idiocy, insanity, penitentiary crimes, and bigamous or otherwise illegal marriage.

The following table shows the number of applications for divorce, and the number granted, in 1905, in each county of the State; also the causes alleged for the applications:

TABLE XLIV.

COUNTIES.	Number of Applications.	Number Granted.	CAUSES ALLEGED.										Total Causes Alleged.
			Adultery.	Extreme Cruelty.	Willful Desertion.	Continued Drunken- ness.	Neglect to Provide Necessaries, etc.	Other Gross Misbe- havior.	Impotency.	Void Marriage.	Habitual use of Mor- phine.	Lived separate and apart for over 10 yrs.	
Bristol.....	10	8	.....	3	4	4	7	3	.....	.....	.....	.....	21
Kent.....	35	16	4	10	11	10	24	5	.....	.....	.....	.....	64
Newport.....	46	38	9	19	19	18	28	.....	.....	.....	.....	.....	93
Providence....	532	303	75	214	202	110	345	110	1	6	....	7	1,070
Washington....	36	17	1	5	13	3	12	10	.....	.....	.....	.....	44
Whole State...	659	382	89	251	249	145	416	128	1	6	....	7	1,292

There were, during the year 1905, six hundred and fifty-nine (659) applications for divorce, and the whole number of causes alleged was twelve hundred and ninety-three (1,293). There was, therefore, an average of nearly two causes alleged in each application.

The causes alleged why divorces should be granted in the applications, during 1905, were 9 less in number than in 1904.

COUNTIES.	SEX.	CAUSES OF APPLICATION WHERE DIVORCE WAS GRANTED.							APPLICANT.			
		Adultery.	Extreme Cruelty, Willful Desertion.	Continued Drunken- ness.	Neglect to Provide Necessaries, etc.	Other Gross Misbe- havior.	Void Marriage.	Lived separate and apart for more than 10 years.	Excessive and In- temperate use of Morphine.	Husband.	Wife.	Total.
Bristol County.....	{ Males..... Females ..	..... .....	2 1	..... 3	..... 5	..... .....	..... .....	..... .....	..... .....	2 9	} 11	
Kent County.....	{ Males..... Females ..	..... .....	1 2	1 1	..... 3	..... 13	..... .....	..... .....	..... .....	2 19		} 21
Newport County.....	{ Males..... Females ..	..... .....	3 2	1 7	1 2	..... 4	..... 6	..... .....	..... .....	5 21	} 26	
Providence County....	{ Males..... Females ..	..... .....	7 4	2 38	30 61	12 24	..... 181	3 1	1 2	..... .....		55 312
Washington County....	{ Males..... Females ..	..... .....	..... 2	2 4	..... 1	..... 8	..... .....	..... .....	..... .....	2 15	} 17	
Total.....	{ Males..... Females ..	..... .....	10 6	2 49	36 69	74 35	..... 213	3 1	1 2	..... .....		66 376

LENGTH OF TIME MARRIED.		Bristol County.	Kent County.	Newport County.	Providence County.	Washington County.	Whole State.
Number under six months.....				1	8		9
Six months and under one year.....		1	1		10		12
One year and under five.....		2	9	11	154	4	180
Five years and under ten.....		2	8	17	148	6	181
Ten years and over.....		5	17	17	206	9	254
Unstated.....					6	17	23
Average of years of marriage in Bristol County.....		9 years, 6 months.					
" " " " Kent County.....		10 years, 9 months.					
" " " " Newport County.....		9 years, 9 months.					
" " " " Providence County.....		9 years, 10 months.					
" " " " Washington County.....		10 years.					
" " " " Whole State.....		9 years, 11 months					

In order to show the actual number of applications, and the number of divorces granted, in each of the last thirty-three years, the following summary is presented:

	Applications for divorce.	Divorces granted.	Applications refused or continued or withdrawn.
1873.....	261.....	173.....	88
1874.....	276.....	242.....	34
1875.....	227.....	158.....	69
1876.....	254.....	196.....	58
1877.....	257.....	178.....	79
1878.....	258.....	196.....	62
1879.....	255.....	246.....	9
1880.....	347.....	273.....	74
1881.....	350.....	268.....	82
1882.....	339.....	271.....	68
1883.....	321.....	257.....	64
1884.....	320.....	266.....	54
1885.....	293.....	227.....	66
1886.....	336.....	257.....	79
1887.....	322.....	248.....	74
1888.....	304.....	224.....	80
1889.....	366.....	274.....	92
1890.....	327.....	244.....	83
1891.....	362.....	275.....	87
1892.....	412.....	296.....	116
1893.....	529.....	301.....	228
1894.....	506.....	280.....	226
1895.....	516.....	373.....	143
1896.....	526.....	363.....	163
1897.....	544.....	372.....	172
1898.....	615.....	400.....	215
1899.....	648.....	412.....	236
1900.....	714.....	466.....	248
1901.....	751.....	517.....	234
1902.....	671.....	492.....	179
1903.....	666.....	427.....	239
1904.....	671.....	482.....	189
1905.....	659.....	382.....	277
33 years, total.....	14,203.....	10 036.....	4,167

The average annual proportion of decrees of divorce granted, during the last thirty-three years, to the applications therefor, was 70.7 per cent.

During the last ten years the proportions were as follows:

Years.....	1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905,
Per cent.....	69.0...68.4...65.0...63.6...65.3...68.8...73.3...64.1...71.8...70.6

The proportion of *divorces granted*, in 1905, to the whole number of marriages, during the same year, was *one divorce* to every twelve and four-tenths marriages.



The proportion of *applications for divorce* to whole number of marriages, during the year, was one *application* to every seven and two-tenths marriages.

The following table shows the number of divorces granted in each county, and the whole State, in each of the last thirty-seven years, and the proportion of marriages to each divorce granted in each year:

TABLE XLV.

YEARS.	Bristol County.		Kent County.		Newport County.		Providence County.		Washington County.		Whole State.	
	Divorces Granted.	Marriages to one Divorce.	Divorces Granted.	Marriages to one Divorce.	Divorces Granted.	Marriages to one Divorce.	Divorces Granted.	Marriages to one Divorce.	Divorces Granted.	Marriages to one Divorce.	Divorces Granted.	Marriages to one Divorce.
1869.....	10	10.6	15	12.5	6	27.7	120	13.8	11	15.5	162	14.1
1870.....	3	22.7	18	11.8	6	26.3	152	11.3	21	9.3	200	11.8
1871.....	5	16.8	11	17.9	4	49.7	123	13.3	18	11.4	161	14.5
1872.....	8	10.2	13	15.7	8	22.9	149	12.6	22	8.9	200	12.7
1873.....	6	16.2	22	9.8	8	21.9	131	14.8	6	33.7	173	15.2
1874.....	10	8.9	20	8.0	6	29.0	190	10.0	16	11.6	242	10.5
1875.....	2	50.0	18	8.8	7	23.4	120	14.9	11	20.5	158	15.7
1876.....	6	14.5	15	12.8	7	20.5	148	11.1	20	8.8	190	11.5
1877.....	7	12.0	9	16.3	7	26.0	134	12.4	21	9.9	178	12.8
1878.....	4	26.0	11	13.3	13	12.8	156	10.9	12	17.3	196	11.9
1879.....	5	18.8	19	9.0	7	24.1	195	9.1	20	9.7	246	9.7
1880.....	8	12.1	23	9.4	11	17.6	208	9.7	23	17.0	273	10.1
1881.....	6	20.1	26	7.3	10	16.9	207	10.0	19	11.0	268	10.4
1882.....	6	15.0	18	10.3	15	13.0	221	8.9	11	16.2	271	9.7
1883.....	6	15.8	15	11.5	9	21.2	214	9.2	13	13.3	257	10.2
1884.....	4	16.7	20	8.0	12	15.7	209	9.3	21	8.2	266	9.6
1885.....	3	23.0	9	18.6	17	11.2	186	10.1	12	15.0	227	11.0
1886.....	5	16.0	17	11.0	15	12.3	194	10.9	26	7.3	257	10.7
1887.....	1	75.0	23	8.0	13	13.4	187	11.8	24	7.9	248	11.4
1888.....	5	15.8	14	13.5	4	46.0	188	12.5	13	16.5	224	13.5
1889.....	6	12.5	27	8.3	14	14.0	211	11.2	16	10.8	274	11.1
1890.....	4	27.5	19	12.1	1	232.0	196	12.3	24	8.8	244	13.0
1891.....	10	8.4	20	11.2	17	12.6	214	11.2	14	14.3	275	12.1
1892.....	2	49.5	19	12.4	20	11.6	236	11.6	19	10.4	296	11.8
1893.....	3	38.0	10	23.8	21	9.9	235	11.5	22	8.0	301	11.8
1894.....	7	16.0	22	9.0	18	12.3	207	12.4	26	6.8	280	11.7
1895.....	8	10.9	17	9.9	11	21.3	318	8.8	19	11.2	373	9.4
1896.....	7	12.4	21	7.5	18	11.3	304	8.8	13	16.1	263	9.2
1897.....	9	9.3	20	8.5	16	12.9	306	8.1	21	9.7	372	8.4
1898.....	7	12.4	22	9.3	19	9.9	333	7.8	19	9.8	400	8.2
1899.....	6	13.5	20	11.9	18	12.0	355	7.7	13	13.0	412	8.3
1900.....	8	10.6	19	12.4	15	17.1	400	7.9	24	8.8	466	8.5
1901.....	8	11.6	19	13.5	16	13.3	456	6.8	18	10.4	517	7.4
1902.....	10	9.4	26	10.3	17	14.4	413	8.0	26	8.4	492	8.4
1903.....	9	14.1	28	8.7	17	15.1	355	10.2	18	12.2	427	10.5
1904.....	9	15.0	26	9.5	28	7.9	399	8.4	20	10.9	482	8.6
1905.....	8	15.8	16	16.5	38	6.9	303	12.8	17	13.4	382	12.4

The ratio of divorces granted in the entire State, during 1905, to the whole number of marriages during the same year, was one divorce to every twelve and four-tenths marriages, as previously stated.

During the ten years 1869 to 1878, inclusive, the ratio of divorce to number of marriages was one divorce to every thirteen; during the ten years 1879 to 1888, inclusive, the ratio was one divorce to ten and six-tenths marriages.

The average of the last ten years was one divorce to every eight and nine-tenths marriages.

During the thirty-seven years 1869-1905, the average proportions of divorce to marriage, in the several counties and the State, have been as follows:

Bristol County.....	One divorce to every 19.0 marriages.
Kent County.....	One divorce to every 11.5 marriages.
Newport County.....	One divorce to every 23.9 marriages.
Providence County.....	One divorce to every 10.6 marriages.
Washington County.....	One divorce to every 12.2 marriages.
Whole State.....	One divorce to every 11.0 marriages.

TABLE XLVI.

*Table Showing the Number of Marriages to every Decree of Divorce, in five of the New England States, during the Twenty-nine Years from 1877 to 1905.*

STATES.	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Rhode Island.....	12.8	11.9	9.7	10.1	10.4	9.7	10.2	9.6	11.0	10.7	11.4	13.5	11.1	13.0	12.1	11.8	11.8	11.7	9.4	9.2	8.4	8.2	8.3	8.5	7.4	8.4	10.5	8.6	12.4
Maine.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10.4	9.2	8.3	8.4	8.3	7.4	6.7	6.7	6.8	7.1	6.5	6.6	6.9	7.4	
New Hampshire., .....	.....	.....	.....	7.7	9.2	10.9	12.8	10.4	10.9	8.3	10.7	8.7	9.8	9.5	9.5	11.7	10.3	12.6	9.9	9.9	8.8	8.5	8.6	9.3	8.3	8.4	7.8	7.2	8.9
Vermont., .....	15.0	14.0	21.0	20.0	16.0	17.8	16.4	13.5	28.8	20.0	13.5	16.9	19.6	18.3	17.1	17.4	15.9	12.3	9.7	11.2	11.9	13.0	12.3	13.2	13.5	10.0	10.6	9.9	.....
Massachusetts.....	23.1	21.4	23.4	26.8	40.9	34.3	27.8	28.2	26.4	30.0	24.5	30.6	26.9	31.8	27.1	28.5	21.8	18.6	24.2	14.7	20.5	18.7	20.2	19.3	18.1	17.4	12.1	21.2	14.9
Connecticut.....	10.1	10.7	13.4	13.9	11.6	12.8	12.1	14.9	13.3	14.2	14.9	13.8	10.7	13.2	13.7	13.2	16.6	15.9	15.9	14.5	16.0	15.3	15.9	15.5	13.9	16.6	15.1	16.1	.....

## DEATHS, 1905.

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The number of deaths registered in Rhode Island during 1905, according to the returns made to the State Registrar, was eight thousand two hundred and twelve (8,212).

This number is larger by 105 than that of 1904.

The death rate (17.1 in every 1,000 living persons) was 0.2 lower than that of the previous year.

The following summary will show the death rates per 1,000, for each of the last five census years, in comparison with the last five years:

1885,	1890,	1895,	1900,	1905,	1901,	1902,	1903,	1904,	1905,
17.7.....	20.7.....	19.6.....	20.6.....	17.1.....	18.2.....	17.8.....	18.5.....	17.3.....	17.1

On the following page will be found the death rates, by counties, for forty-five years.

TABLE XLVII.

*Death rates per 1,000 living, by counties, for forty-six years, from 1861 to 1905, inclusive, also the average rate of each period of five years each, from 1861 to 1900, inclusive, for the whole State.*

YEARS.	Bristol.	Kent.	Newport.	Providence.	Washington.	State.	STATE. ANNUAL AVERAGE OF FIVE-YEAR PERIODS, 1861-1905.
Five years, 1861-1865..	17.7	15.9	18.9	17.7	12.4	17.1	...17.1 per 1,000 living.
1866.....	19.2	14.2	17.3	16.6	11.4	16.1	} ...15.6 per 1,000 living.
1867.....	17.0	15.1	15.0	16.4	10.9	15.6	
1868.....	15.7	13.7	14.7	17.0	10.0	15.7	
1869.....	17.9	16.7	13.2	16.0	12.8	15.6	
1870.....	15.5	13.5	14.1	15.5	12.0	14.9	
1871.....	16.3	17.5	12.2	15.9	12.3	15.4	} ...17.5 per 1,000 living.
1872.....	21.1	16.1	14.5	21.2	14.7	19.1	
1873.....	18.4	13.8	19.0	22.0	15.1	20.2	
1874.....	14.7	13.2	10.8	17.7	13.7	16.3	
1875.....	14.9	14.9	13.5	17.5	15.5	16.7	
1876.....	14.7	11.7	13.5	16.8	15.9	15.9	} ...16.8 per 1,000 living.
1877.....	18.2	13.1	12.4	18.7	12.8	17.2	
1878.....	17.5	14.2	13.7	18.3	13.0	17.2	
1879.....	13.2	15.1	14.8	17.2	11.1	16.2	
1880.....	19.2	14.9	14.5	18.5	12.7	17.5	
1881.....	17.9	16.5	15.7	19.3	11.9	18.1	} ...18.0 per 1,000 living.
1882.....	16.5	15.3	17.2	19.7	11.0	18.4	
1883.....	17.7	14.6	17.7	20.8	9.8	19.1	
1884.....	17.7	17.1	14.5	17.8	12.6	16.9	
1885.....	16.3	16.4	14.5	18.5	14.0	17.7	
1886.....	19.2	17.5	15.0	19.2	15.0	18.8	} ...19.8 per living, 1,000
1887.....	18.2	15.5	15.1	21.1	15.5	19.8	
1888.....	21.3	18.4	18.0	21.0	16.0	20.4	
1889.....	17.6	20.1	14.7	19.2	14.6	19.0	
1890.....	22.1	17.6	16.5	22.1	13.5	20.7	
1891.....	20.5	18.0	20.6	18.6	12.6	19.6	} ...19.6 per 1,000 living.
1892.....	20.0	20.7	20.1	20.2	15.2	20.1	
1893.....	19.9	19.4	17.9	19.9	12.6	19.6	
1894.....	16.5	19.8	16.9	19.1	16.4	19.1	
1895.....	20.9	17.4	15.9	20.1	15.0	19.6	
1896.....	17.9	18.8	17.0	19.2	15.3	19.1	} ...18.3 per 1,000 living.
1897.....	18.6	16.7	16.2	17.6	14.7	17.6	
1898.....	15.0	15.6	15.5	16.7	14.5	16.7	
1899.....	17.6	16.8	17.6	17.6	14.1	17.6	
1900.....	22.6	23.6	18.7	19.9	18.2	20.6	
1901.....	17.9	19.7	16.5	17.8	16.2	18.2	} ...17.8 per 1,000 living.
1902.....	18.4	17.7	18.1	17.6	12.8	17.8	
1903.....	19.8	18.0	15.4	18.4	16.6	18.5	
1904.....	18.0	17.8	13.9	17.0	16.0	17.3	
1905.....	19.7	16.6	15.7	16.6	16.4	17.1	

Annual average, 45 years, 1861-1905.....17.8 per 1,000 living.

## SEX OF DECEDENTS.

Of the 8,212 persons whose deaths were returned during the year 1905, 4,173 were males and 4,039 were females; the ratio standing at 103.3 males to each 100 females, or about 508 males and 492 females in every 1,000 decedents.

The following table will show the number and proportion of males and females among the *decedents* in Rhode Island during the ten years 1853 to 1862, inclusive; also in each of the forty-three years from 1863 to 1905, inclusive, and for the entire period of fifty-three years:

TABLE XLVIII.—DEATHS.

	Males.	Females.	Males to every 100 females.
10 years, 1853-1862.....	10,930.....	11,269.....	96.9
1863.....	1,621.....	1,586.....	102.2
1864.....	1,633.....	1,727.....	92.4
1865.....	1,686.....	1,719.....	98.1
1866.....	1,497.....	1,473.....	101.5
1867.....	1,442.....	1,447.....	99.7
1868.....	1,413.....	1,499.....	94.3
1869.....	1,696.....	1,686.....	100.6
1870.....	1,588.....	1,650.....	96.2
1871.....	1,621.....	1,723.....	94.1
1872.....	2,118.....	2,229.....	99.4
1873.....	2,166.....	2,237.....	95.5
1874.....	2,111.....	2,118.....	99.7
1875.....	2,108.....	2,209.....	95.4
1876.....	1,969.....	2,147.....	91.7
1877.....	2,132.....	2,318.....	92.0
1878.....	2,161.....	2,280.....	94.8
1879.....	2,183.....	2,289.....	95.4
1880.....	2,366.....	2,463.....	96.0
1881.....	2,467.....	2,549.....	96.8
1882.....	2,487.....	2,587.....	96.5
1883.....	2,627.....	2,655.....	99.0
1884.....	2,486.....	2,655.....	93.6
1885.....	2,607.....	2,782.....	93.7
1886.....	2,833.....	3,016.....	93.9
1887.....	3,177.....	3,163.....	100.4
1888.....	3,199.....	3,395.....	95.4
1889.....	3,093.....	3,166.....	97.7
1890.....	3,501.....	3,433.....	102.0
1891.....	3,341.....	3,279.....	101.9
1892.....	3,725.....	3,671.....	101.5
1893.....	3,789.....	3,651.....	103.8
1894.....	3,559.....	3,601.....	98.8
1895.....	3,799.....	3,736.....	101.6
1896.....	3,874.....	3,630.....	106.7
1897.....	3,587.....	3,523.....	106.7
1898.....	3,554.....	3,351.....	106.1
1899.....	3,725.....	3,733.....	99.8
1900.....	4,473.....	4,350.....	102.8
1901.....	4,066.....	3,900.....	104.2
1902.....	4,042.....	3,913.....	103.3
1903.....	4,461.....	4,181.....	106.8
1904.....	4,143.....	3,964.....	104.5
1905.....	4,173.....	4,039.....	103.3
53 years.....	131,229.....	131,892.....	99.5



The following table of *births*, during the same period of time as the preceding, will show by comparison the different proportions of the sexes in the two classes of events:

TABLE XLIX.—BIRTHS.

	Males.	Females.	Males to every 100 females.
10 years, 1853-1862.....	18,377.....	17,260.....	106.4
1863.....	1,892.....	1,788.....	105.8
1864.....	1,949.....	1,942.....	100.3
1865.....	2,096.....	1,857.....	112.9
1866.....	2,546.....	2,256.....	108.0
1867.....	2,655.....	2,466.....	107.0
1868.....	2,745.....	2,627.....	104.5
1869.....	2,685.....	2,560.....	104.9
1870.....	2,679.....	2,536.....	104.9
1871.....	2,878.....	2,800.....	105.8
1872.....	3,085.....	3,058.....	100.9
1873.....	3,135.....	2,887.....	108.6
1874.....	3,311.....	3,155.....	104.9
1875.....	3,362.....	3,146.....	106.9
1876.....	3,291.....	3,038.....	108.3
1877.....	3,163.....	3,072.....	103.0
1878.....	3,402.....	3,312.....	102.7
1879.....	3,259.....	3,091.....	105.4
1880.....	3,241.....	3,054.....	106.1
1881.....	3,498.....	3,263.....	107.2
1882.....	3,509.....	3,316.....	105.8
1883.....	3,548.....	3,498.....	101.4
1884.....	3,713.....	3,592.....	103.4
1885.....	3,591.....	3,437.....	104.4
1886.....	3,897.....	3,724.....	104.6
1887.....	3,968.....	3,700.....	107.4
1888.....	4,023.....	3,817.....	105.4
1889.....	4,193.....	4,027.....	104.1
1890.....	4,351.....	4,199.....	103.2
1891.....	4,926.....	4,500.....	109.5
1892.....	4,765.....	4,505.....	109.3
1893.....	5,105.....	4,943.....	103.3
1894.....	5,129.....	4,856.....	105.6
1895.....	5,136.....	4,746.....	108.2
1896.....	5,461.....	5,289.....	103.3
1897.....	5,493.....	5,302.....	103.5
1898.....	5,443.....	5,287.....	102.9
1899.....	5,591.....	5,240.....	106.7
1900.....	5,625.....	5,459.....	103.0
1901.....	5,944.....	5,348.....	111.1
1902.....	5,776.....	5,451.....	106.0
1903.....	5,975.....	5,806.....	102.9
1904.....	6,175.....	5,901.....	102.9
1905.....	6,234.....	6,071.....	102.7
53 years.....	190,820.....	181,280.....	105.3

## SEASON AND MORTALITY.

The whole number of decedents, and the sex of the same, in each month of the year 1905, and in each division of the State, may be found in Table V, on the tenth and eleventh pages.

The influence of season upon mortality may be further illustrated by the following table, which shows the number and percentage of deaths, compared with the whole number of deaths, in each quarter of each of the last five years, and in the aggregate for fifty-three years, 1853 to 1905, inclusive:

TABLE L.

SEASON.	1905.		1904.		1903.		1902.		1901.		53 years, 1853-1905.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
January-March...	2,329	28.36	2,258	27.85	2,364	27.35	1,987	24.98	2,179	27.35	64,191	24.99
April-June.....	1,891	23.03	1,899	23.43	2,025	23.43	1,833	23.04	1,761	22.11	57,000	22.19
July-September..	2,105	25.63	2,096	25.85	2,309	26.72	2,149	27.01	2,162	27.14	72,713	28.31
October-Dec.....	1,887	22.98	1,854	22.87	1,944	22.50	1,986	24.97	1,864	23.40	62,958	24.51
Total.....	8,212	100.00	8,107	100.00	8,642	100.00	7,955	100.00	7,966	100.00	256,862	100.00

Comparing the percentages of 1905 with those of the fifty-three years, we find that of the first quarter is 3.37 per cent. larger; the second quarter is .84 per cent. larger; the third quarter, 2.68 per cent. less; and the last quarter 1.53 per cent. less than for the average of the fifty-three years. The greatest mortality for any one season of any year previous to 1900 has been usually found in the third quarter.

TABLE LI.

*Showing the Months in the Order of Largest Mortality for Eight Years.*

1905.	1904.	1903.	1902.	1901.	1900.	1899.	1898.
March..... 829	January... 800	July..... 825	August.... 767	March..... 761	April..... 988	January... 785	August..... 730
January..... 788	July..... 753	January... 812	December.. 758	January... 742	March..... 915	August.... 752	September.. 673
August..... 771	August.... 750	August.... 789	July..... 712	August.... 735	August.... 829	July..... 717	July..... 595
July..... 720	March..... 749	February.. 782	March..... 680	July..... 732	July..... 823	March..... 638	December... 585
February.... 712	April..... 742	March..... 770	September. 670	September. 695	February.. 752	December.. 636	March..... 582
December... 678	February.. 709	April..... 726	January... 665	February.. 676	January... 733	April..... 634	April..... 576
April..... 658	December.. 685	December.. 700	April..... 648	October.... 618	December.. 678	February.. 620	May..... 568
May..... 658	May..... 626	September. 695	February.. 642	April..... 638	September. 663	September. 584	October.... 543
September... 614	September. 593	May..... 694	May..... 637	December.. 635	May..... 615	May..... 547	January..... 540
October..... 605	November. 586	October.... 653	October.... 622	May..... 596	October.... 629	November. 522	November... 509
November... 604	October.... 583	June..... 695	November. 606	November. 581	June..... 587	June..... 518	February... 505
June..... 573	June..... 531	November. 591	June..... 548	June..... 527	November. 581	October.... 505	June..... 499
8,212	8,107	8,642	7,966	7,966	8,823	7,458	6,905

## NATIVITY OF DECEDENTS.

There may be found in Table I, on pages 2-5, the number of decedents in 1905, by division of the two classes of native and foreign born.

Of the whole number of decedents, 8,212, 5,766 were native born, that is, were born in the United States, and 2,446 were born outside of the United States.

## PARENTAGE OF DECEDENTS.

Of the whole number of decedents, 8,212, reported in 1905, 3,200 were of native and 5,012 were of foreign and unknown parentage.

By the term "*foreign parentage*" is meant the decedents whose *fathers* were born in some other country and not in the United States. The grandchildren of the foreign born are reckoned as of native parentage, if their fathers were born in the United States.

The following towns and cities reported a larger number of decedents of foreign *parentage* than of native, namely: Bristol, Warren, Warwick, Newport, Portsmouth, Tiverton, Burrillville, Central Falls, Cranston, Cumberland, Johnston, Lincoln, Pawtucket, Providence, and Woonsocket.

These numbers varied from a moderate excess to three or four times as many of foreign as of native *parentage*.

The following table gives the number and proportion in every one thousand deaths of decedents of native and of foreign *parentage* in each of the last five years; and in the aggregate for forty-five years, or from 1858 to 1902, inclusive:

TABLE LII.

PARENTAGE.	1905.		1904.		1903.		1902.		1901.		45 years, 1859-1902.	
	Number.	Per 1,000.	Number.	Per 1,000.	Number.	Per 1,000.	Number.	Per 1,000.	Number.	Per 1,000.	Number.	Per 1,000.
Native.....	3,200	389.7	3,315	408.9	3,434	397.4	3,247	408.2	3,264	409.7	120,218	489.5
Foreign.....	5,012	610.3	4,792	591.1	5,208	602.6	4,708	591.8	4,702	590.3	125,395	510.5
Total.....	8,212	1000.0	8,107	1000.0	8,642	1000.0	7,955	1000.0	7,966	1000.0	245,613	1000.0

## AGE OF DECEDENTS.

In Table I, on pages 2-5, may be found the aggregate and average age of all the decedents whose deaths occurred in 1905, and with the age of each sex in each town and county in the State.

By that table it will be seen that the average age of all the male decedents in the State, in 1905, was 35.51 years, and that the average age of all the female decedents, in the same year, was 38.06 years; the average of all decedents, of both sexes, was 36.77 years.

The average age of the total decedents in the State, in 1905, was sixty one-hundredths of a year less than the average for 1904.

The average age of the male decedents, in 1905, was forty-three one-hundredths of a year greater, and the average age of the female decedents was one and seventy-one one-hundredths of a year less, than in the previous year.

The following table will present, separately, the average age of the male and female decedents, and the average age of all decedents, in each year for forty-five years; also the average age in nine periods of five years each, from 1861 to 1905, inclusive:

TABLE LIII.

YEARS.	Average Age of Males.	Average Age of Females.	Average Age of All.	Average Age, 5-year periods. 1861-1905.
1861.....	26.95	30.58	28.82	29.32
1862.....	29.64	32.65	31.15	
1863.....	28.29	30.86	29.56	
1864.....	28.13	30.43	29.40	
1865.....	26.38	28.97	27.69	
1866.....	31.13	35.07	33.09	32.42
1867.....	32.16	35.86	34.01	
1868.....	30.47	35.08	32.85	
1869.....	28.62	31.29	30.25	
1870.....	31.02	32.75	31.90	
1871.....	32.57	34.43	33.52	30.16
1872.....	28.41	31.15	29.77	
1873.....	26.18	28.62	27.42	
1874.....	28.03	31.66	26.86	
1875.....	29.72	32.75	31.27	
1876.....	31.47	33.21	32.37	31.21
1877.....	29.25	31.56	30.45	
1878.....	29.02	31.11	30.09	
1879.....	31.29	33.24	32.29	
1880.....	27.62	32.06	30.86	
1881.....	30.99	34.07	32.55	33.99
1882.....	31.33	35.57	33.50	
1883.....	33.64	37.44	35.55	
1884.....	32.29	35.12	33.76	
1885.....	33.53	35.60	34.59	
1886.....	33.02	34.91	34.01	33.42
1887.....	30.97	32.91	31.95	
1888.....	33.17	35.74	34.53	
1889.....	32.20	35.74	34.00	
1890.....	31.04	34.26	32.62	
1891.....	32.70	36.28	34.47	33.96
1892.....	32.96	37.75	35.34	
1893.....	30.97	33.99	32.46	
1894.....	32.47	34.40	33.44	
1895.....	31.70	36.49	34.08	
1896.....	30.86	34.47	32.61	34.53
1897.....	33.71	37.06	35.37	
1898.....	34.34	36.34	35.31	
1899.....	34.04	37.30	35.67	
1900.....	31.81	35.58	33.67	
1901.....	35.01	38.07	36.51	36.11
1902.....	34.32	36.70	35.49	
1903.....	32.94	35.96	34.40	
1904.....	35.08	39.77	37.37	
1905.....	35.51	38.06	36.77	



The above table shows that the average longevity of the decedents in Rhode Island increased nearly seven years during a period of forty-five years, ending with 1905.

The following table will present some of the facts of the preceding as occurring in the different divisions of the State, as well as of the State at large. It will show the average age of the decedents in each of the larger divisions of the State, in each of the last three years, and also the average of each of eight periods of five years each, comprising the forty years from 1863 to 1902, inclusive:

TABLE LIV.

DIVISIONS OF THE STATE.	1905.	1904.	1903.	1898-1902, 5 years.	1893-1897, 5 years.	1888-1892, 5 years.	1883-1887, 5 years.	1878-1882, 5 years.	1873-1877, 5 years.	1868-1872, 5 years.	1863-1867, 5 years.
Bristol County.....	39.80	38.62	39.83	39.74	42.78	39.76	38.45	36.68	33.61	35.12	34.78
Kent County.....	36.53	35.82	33.27	32.97	31.07	32.22	37.66	37.11	36.20	34.77	35.81
Newport County.....	40.29	45.36	40.91	39.94	39.98	40.63	42.41	39.21	40.68	40.04	33.54
Providence County*...	33.61	36.17	32.36	33.14	30.79	31.63	31.83	30.60	28.46	25.26	29.16
Providence City.....	35.92	34.91	32.57	33.91	32.03	33.44	32.19	29.50	27.19	25.45	28.50
Washington County....	49.47	47.68	45.64	49.70	46.55	46.77	43.39	41.01	41.14	39.67	30.87
Whole State.....	36.77	37.37	34.40	35.15	33.59	34.19	33.97	31.86	30.28	31.66	30.73

By reference to Table LIV, it will be seen that the average age of all decedents during the last five years is more than four years greater than the first period of five years, 1863-1867.

#### PERCENTAGE OF DECEDENTS BY DIFFERENT AGES.

In Table VI, on pages 12 to 19, inclusive, will be found the number of deaths in 1905, in each town and each county, of each sex, and in each period of life, with the percentage of the whole number of deaths in each division to the population of the same, according to the census of 1905.

The following table shows the percentage of decedents in each division of ages, to whole number of deaths, in each of the last five years, and in the aggregate for four periods: one of twenty years and seven months, from June 1st, 1852, to December 31, 1872, inclusive; one of ten years, from 1873 to 1882, inclusive; one of ten years, from 1883 to 1892, inclusive; and one of ten years, from 1893 to 1902, inclusive:

\* Exclusive of Providence city.

TABLE LV.

PERIODS OF LIFE.	1905.	1904.	1903.	1902.	1901.	10 years, 1893 to 1902.	10 years, 1883 to 1892.	10 years, 1873 to 1882.	20 years, 7 months, 1852 to 1872.
Under 1 year.....	20.8	21.8	22.3	23.3	21.1	22.8	20.4	18.9	17.8
1 and under 2.....	4.6	4.1	5.9	4.5	4.9	5.0	5.6	7.6	8.8
2 and under 5.....	3.7	3.6	4.9	4.0	4.1	4.8	5.8	8.4	8.7
Total.....	29.1	29.5	33.1	31.8	30.1	32.6	31.8	34.9	35.3
5 and under 10.....	2.2	2.4	2.8	2.3	2.3	2.8	3.5	5.0	4.8
10 and under 20.....	3.5	3.7	3.3	3.8	3.8	4.1	5.1	5.8	6.0
20 and under 30.....	7.6	7.3	7.1	7.6	8.2	8.0	8.7	9.2	9.6
30 and under 40.....	8.8	7.7	7.9	7.8	7.8	7.8	7.9	7.8	8.4
40 and under 50.....	8.9	8.7	8.0	7.9	9.0	8.1	7.5	6.9	7.3
50 and under 60.....	10.7	10.4	9.9	10.2	10.3	9.4	8.5	7.2	7.0
60 and under 70.....	11.9	12.0	11.4	11.1	11.5	10.7	9.7	8.2	7.6
70 and under 80.....	11.1	11.4	9.6	10.8	10.4	10.1	9.9	8.8	7.2
80 and under 90.....	5.3	5.9	5.7	5.7	5.6	5.4	5.9	5.1	5.1
Over 90 and not stated.....	0.9	1.0	1.2	1.0	1.0	1.0	1.5	1.1	1.1
Total.....	70.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Compared with the average of twenty years, ending with 1872, the average proportion of the mortality of children under one year of age, during the last ten years, was 5 per cent., or 50 in every one thousand deaths more than the average in the longer period.

The proportions in the other periods were not greatly different from previous years, although there was some increase of percentage in the age period above fifty years.

The following table will present the varying proportions of deaths to whole number of deaths, in four different periods of life, from 50 years of age to 90 years, grouped in five periods of averages of ten years each, 1853-1902; also in 1901, 1902, 1903, 1904, and 1905:

TABLE LVI.

AGE OF DECEDENTS.	1st Decade, 1853-1862.	2d Decade, 1863-1872.	3d Decade, 1873-1882.	4th Decade, 1883-1892.	5th Decade, 1893-1902.	1901.	1902.	1903.	1904.	1905.
	<i>Pr. ct.</i>	<i>Pr. ct.</i>	<i>Pr. ct.</i>	<i>Pr. ct.</i>	<i>Pr. ct.</i>	<i>Pr. ct.</i>	<i>Pr. ct.</i>	<i>Pr. ct.</i>	<i>Pr. ct.</i>	<i>Pr. ct.</i>
50 to 60.....	6.7	7.3	7.2	8.5	9.4	10.3	10.2	9.9	10.4	10.7
60 to 70.....	6.9	8.3	8.2	9.7	10.7	11.5	11.1	11.4	12.0	11.9
70 to 80.....	7.3	8.4	8.8	9.9	10.1	10.4	10.8	9.6	11.4	11.1
80 to 90.....	4.6	5.4	5.1	5.9	5.4	5.6	5.7	5.7	5.9	5.3

## COLORED DECEDENTS.

There were 291 deaths of persons of color during 1905.

The towns from which they were returned, and number in each, were as follows:

Providence City.....	169
Bristol.....	3
East Greenwich.....	3
Warwick.....	9
Jamestown.....	2
Newport City.....	39
New Shoreham.....	1
Cranston.....	2
State Institutions.....	27
East Providence.....	9
Pawtucket.....	3
Charlestown.....	2
Hopkinton.....	1
Narragansett.....	5
South Kingstown.....	6
Richmond.....	4
Westerly.....	6
Total.....	291

Months.	Deaths.	Months.	Deaths.	Months.	Deaths.	Months.	Deaths.
January.....	26	April.....	18	July.....	19	October.....	29
February.....	25	May.....	29	August.....	26	November.....	24
March.....	32	June.....	24	September.....	26	December.....	13
—	—	—	—	—	—	—	—
First Quarter.....	83	Second Quarter.....	71	Third Quarter.....	71	Fourth Quarter.....	66

First six months, 154; second six months, 137. Total, 291.

The following summary will show the proportion, to the whole colored population, of each of the events of birth, marriage, and death of colored persons, during the twenty-eight years from 1878 to 1905, inclusive:

	One Birth in every	One Person Married in every	One Death in every
1878.....	36.4	39.2	40.2
1879.....	39.6	51.4	37.3
1880.....	47.1	43.3	44.0
1881.....	34.3	39.2	35.4
1882.....	36.8	44.5	45.4
1883.....	33.4	63.3	39.7
1884.....	34.8	46.0	34.5
1885.....	36.7	51.7	40.1
1886.....	34.6	43.2	37.8
1887.....	35.8	38.9	37.2
1888.....	37.6	55.0	38.0
1889.....	38.7	52.0	40.0
1890.....	45.3	57.6	41.0
1891.....	42.8	41.2	36.4
1892.....	40.6	38.5	31.3
1893.....	38.6	44.2	31.3
1894.....	34.3	56.6	34.2
1895.....	35.9	42.6	32.1
1896.....	35.1	38.9	37.9
1897.....	38.5	36.0	41.3
1898.....	37.9	48.2	41.8
1899.....	39.4	41.7	36.0
1900.....	39.5	37.4	37.7
1901.....	35.5	44.3	35.5
1902.....	43.2	39.3	37.5
1903.....	43.9	36.8	32.7
1904.....	37.7	41.3	32.0
1905.....	61.8	53.4	46.9

In every one thousand of the colored population there were, in 1905:

Of Births.	Of Persons Married.	Of Deaths.
16.2...	18.5.....	21.3

The following exhibit will show the number of living births, marriages, and deaths, among the colored population of Rhode Island, during ten years, from 1861 to 1870, inclusive; ten years, from 1871 to 1880, inclusive; ten years, from 1881 to 1890, inclusive; ten years, from 1891 to 1900, inclusive; for the years 1901, 1902, 1903, 1904, and 1905, and the aggregate of the same:

10 years, 1661-1870 .....	1,131 births.....	557 marriages.....	1,153 deaths.
10 years, 1871-1880 .....	1,615 births.....	705 marriages.....	1,573 deaths.
10 years, 1881-1890.....	1,954 births.....	752 marriages.....	1,860 deaths.
10 years, 1891-1900.....	2,080 births.....	957 marriages.....	2,218 deaths.
1901.....	252 births.....	103 marriages.....	257 deaths.
1902...	211 births.....	116 marriages.....	243 deaths.
1903....	208 births.....	124 marriages.....	279 deaths.
1904...	242 births.....	113 marriages.....	285 deaths.
1905...	221 births.....	128 marriages.....	291 deaths.
<hr/>			
Total, 45 years.....	7,914 births.....	3,855 marriages.....	8,159 deaths.

During the first ten years (1861-1870) there were 22 more deaths than births; during the second ten (1871-1880), 42 more births than deaths; during the third ten (1881-1890), 94 more births than deaths; and in the last ten (1891-1900), 138 more deaths than births. During 1901 the number of births was 5 less than the number of deaths, in 1902 the number of births was 32 less than the number of deaths, in 1903 the number of births was 71 less than the number of deaths, in 1904 the number of births was 43 less than the number of deaths, and in 1905 the number of births was 70 less than the number of deaths.

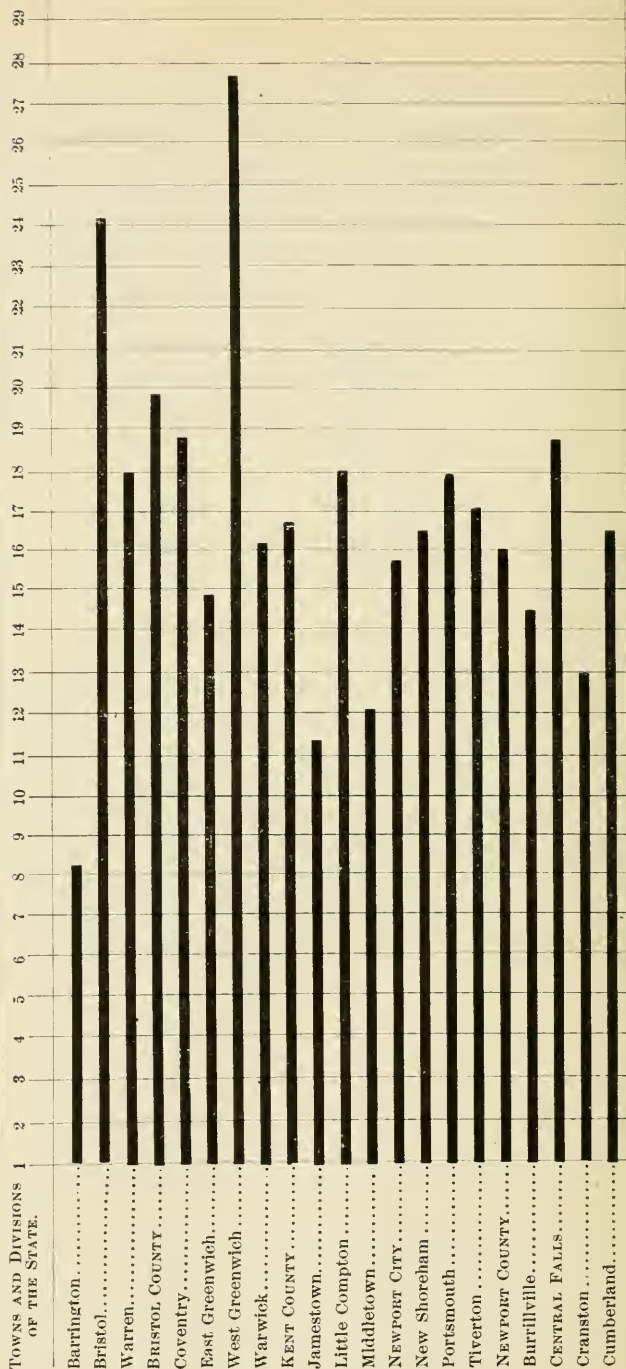


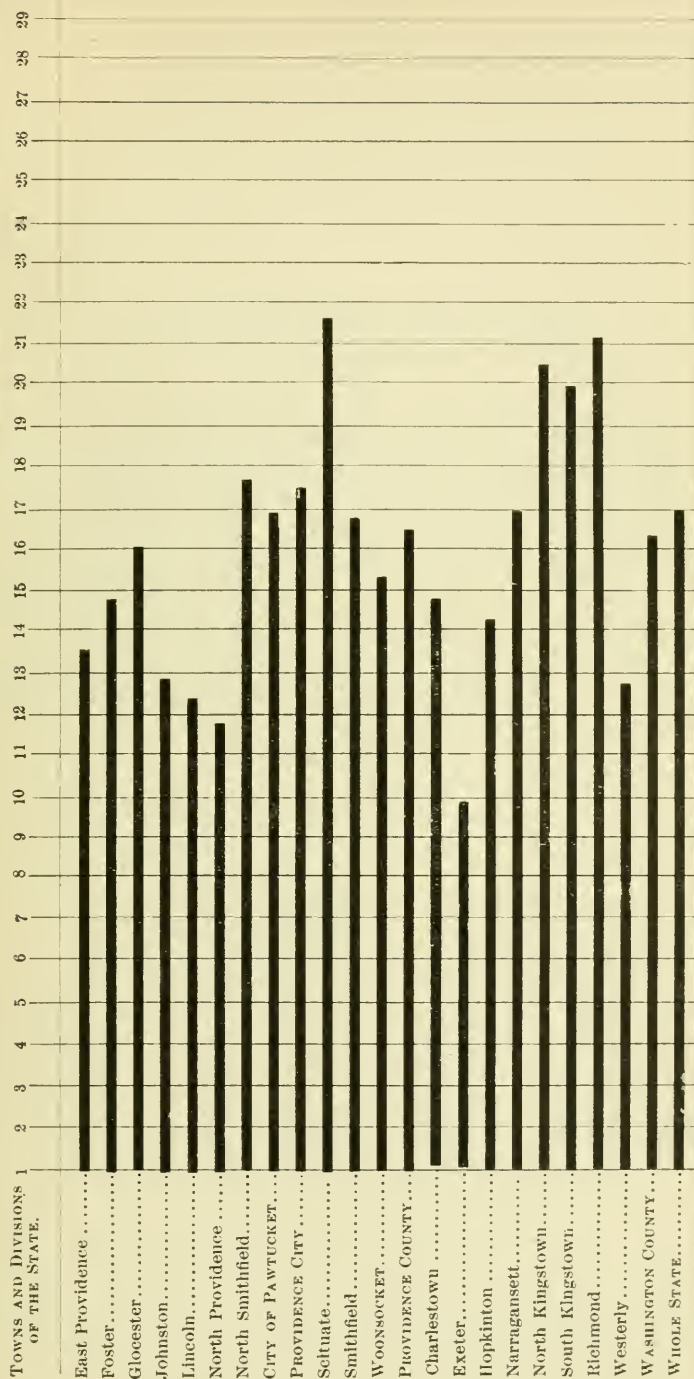


## DEATH RATES.

Diagram I.—Showing the Number of Deaths in every 1,000 of the Population, in each Town and each County in the State, during the Year 1905, computed upon the Population by the Census of 1905.

For explanation see foot-note on next page.





The figures at the top of the perpendicular lines indicate, in whole numbers, the number of deaths during the year in every 1,000 persons. The spaces are fractional parts of one. For instance, the heavy horizontal line against Barrington, at the top of this diagram, reaches across three tenths of the space between the perpendicular lines 8 and 9. It shows the death rate of Barrington, in 1905, was eight and three-tenths in every 1,000 of the population.



## CAUSES OF DEATH, 1905.

The statistics of the causes of death in Rhode Island, in 1905, may be found in Tables VII, VIII, IX, and X. The whole number of deaths, as previously stated, was 8,212, which was larger by 105 than the number returned in 1904. The number of which the cause of death was reported was 8,212, and the number of which the cause was not stated was 37.

The following table shows the number of deaths, in 1905, in each large division of the State, and the number and proportion in each division from which causes were reported unknown:

TABLE LVII.

	Bristol County.	Kent County.	Newport County Towns.	Providence County Towns.	Washington County.	Newport City.	Central Falls.	Pawtucket.	Providence City	Woonsocket.	Whole State.
Number of deaths....	296	567	174	1,317	407	394	364	728	3,274	491	8,212
Cause not stated.....	2	1	1	6	.....	1	2	2	21	1	37
One in.....	148	567	174	219	.....	394	182	364	165	491	222

TABLE LVIII.

*Proportion of Deaths reported with "Causes Unknown" in each Division of the State, for a period of fifty-years from 1856 to 1905, inclusive.*

YEARS.	STATE DIVISIONS.							In every 1,000 Deaths.
	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.	Whole State.	
1856-1860, One in every...	18.1	5.0	7.2	5.5	30.7	7.3	9.4	106.8
1861-1865, One in every...	32.1	13.1	16.1	7.9	39.3	23.7	15.1	66.0
1866-1870, One in every...	83.9	8.9	26.7	7.1	61.8	16.4	14.1	70.9
1871-1875, One in every...	38.6	8.6	13.1	9.9	83.4	13.6	17.1	58.4
1876, One in every.....	11.5	7.9	18.5	9.9	124.3	22.8	19.3	45.8
1877, One in every.....	201.0	17.7	9.7	11.9	323.0	16.0	23.2	43.1
1878, One in every.....	32.1	7.4	9.0	13.7	124.2	21.7	21.1	47.4
1879, One in every.....	16.6	9.2	12.4	9.5	225.1	8.6	17.6	56.8
1880, One in every.....	21.9	23.5	13.5	10.5	122.3	17.8	20.7	48.3
1876-1880, One in every...	31.9	17.2	19.9	18.1	39.6	26.9	25.2	39.7
1881, One in every.....	204.0	13.0	11.2	7.3	143.0	6.5	14.4	69.4
1882, One in every.....	37.6	11.6	10.9	10.6	187.0	7.7	18.8	53.2
1883, One in every.....	40.4	15.9	15.0	15.3	392.8	17.0	28.4	36.2
1884, One in every.....	100.0	40.0	81.6	91.7	372.1	90.4	122.4	8.2
1885, One in every.....	185.0	355.0	137.0	45.6	309.1	52.2	91.3	10.9
1881-1885, One in every...	75.4	20.1	18.8	15.7	242.2	14.0	28.6	34.9
1886, One in every.....	110.5	192.5	86.0	87.0	195.1	55.2	113.7	7.3
1887, One in every.....	212.0	343.0	73.5	782.6	234.0	351.0	333.7	3.0
1888, One in every.....	251.0	408.0	152.7	164.3	293.8	368.0	235.7	4.3
1889, One in every.....	208.0	152.0	221.0	176.7	120.0	338.0	160.0	6.2
1890, One in every.....	.....	.....	236.0	109.0	190.0	159.0	161.0	6.2
1886-1890, One in every...	576.0	413.0	125.1	154.8	189.0	171.2	177.6	5.6
1891, One in every.....	.....	.....	598.0	159.0	175.0	154.0	194.0	5.1
1892, One in every.....	.....	.....	591.0	240.0	212.0	184.0	264.0	3.8
1893, One in every.....	228.0	96.3	64.2	70.2	224.0	307.0	109.9	9.1
1894, One in every.....	.....	192.3	173.0	91.6	144.9	402.0	130.2	7.7
1895, One in every.....	.....	522.0	122.7	280.6	90.9	123.7	144.9	6.9
1891-1895, One in every...	1,155.0	277.5	159.6	126.5	151.8	195.2	152.5	6.6
1896, One in every.....	.....	116.6	.....	707.5	155.6	382.0	258.8	3.9
1897, One in every.....	231.0	536.0	127.7	139.5	187.4	.....	284.4	3.5
1898, One in every.....	.....	172.0	164.6	596.2	366.1	184.5	345.2	2.9
1899, One in every.....	125.3	287.0	188.0	636.7	351.3	180.0	339.0	2.9
1900, One in every.....	237.0	354.0	305.0	281.0	282.9	109.8	267.3	3.7
1896-1900, One in every...	302.8	224.4	225.9	500.1	242.8	213.3	293.0	3.4
1901, One in every.....	240.0	200.3	182.3	195.7	181.3	197.0	190.0	5.3
1902, One in every.....	250.0	.....	67.3	336.5	82.8	319.0	135.0	7.4
1903, One in every.....	277.0	.....	133.3	328.4	155.8	137.0	205.8	4.9
1904, One in every.....	.....	296.5	492.0	197.9	163.3	131.3	193.0	5.2
1905, One in every.....	148.0	567.0	284.0	316.6	165.4	.....	222.3	4.5

\* Not including Providence City.

TABLE LIX.  
Exhibiting the Order in regard to Number and Proportion of Decedents from Thirteen Principal Causes of Death.

1905.	1904.	1903.	January 1st, 1898, to December 31st, 1902, 5 years.	January 1st, 1888, to December 31st, 1897, 10 years.	June 1, 1852, to December 31st, 1887—35 years, 7 months.	Per 1,000 of Whole
Whole No.....8,212.....	Whole No.....8,107.....	Whole No.....8,642.....	Whole No.....39,107.....	Whole No.....70,552.....	Whole No.....129,321.....	Number of Deaths
Tuberculosis, Pulmonary, 836 Other Tuberculous Diseases, 195	Tuberculosis, Pulmonary, 793 Other Tuberculous Diseases, 188	Tuberculosis, Pulmonary, 836 Other Tuberculous Diseases, 195		Consumption.....7,767	Consumption.....19,847	Whole
Pneumonia.....906	Pneumonia.....898	Pneumonia.....870	Pneumonia.....3,651	Pneumonia.....6,213	Pneumonia.....8,298	61.5
Heart Disease.....731	Heart Disease.....723	Heart Disease.....726	Heart Disease.....3,287	Heart Disease.....5,193	Cholera Infantum.....6,821	53.1
Kidney Disease.....622	Kidney Disease.....618	Cholera Infantum*.....638	Cholera Infantum 2,510	Heart Disease.....4,959	Old Age.....6,797	53.0
Cholera Infantum*.....597	Cholera Infantum*.....598	Kidney Disease.....617	Kidney Disease.....2,504	Apoplexy.....3,885	Heart, Disease of.....5,612	43.6
Apoplexy.....437	Apoplexy.....460	Apoplexy.....394	Apoplexy.....2,354	Kidney Disease.....2,893	Dysentery and Diarrhea.....5,166	40.1
Cancer.....383	Cancer.....401	Accidents.....376	Accidents.....1,571	Bronchitis.....2,663	Apoplexy and Paralysis.....5,050	39.2
Accidents.....301	Accidents.....321	Cancer.....350	Cancer.....1,510	Accidents.....2,548	Scarlet Fever.....4,974	38.5
Bronchitis.....229	Bronchitis.....236	Bronchitis.....265	Brain Disease.....1,433	Brain Disease.....2,449	Fever, Typhoid, etc.....4,632	36.1
Brain Disease.....226	Brain Disease.....235	Old Age.....231	Bronchitis.....1,263	Old Age.....2,088	Accidents, all kinds.....3,921	30.3
Old Age.....188	Old Age.....196	Brain Disease.....204	Old Age.....1,178	Cancer.....2,038	Diphtheria.....3,777	29.2
Diphtheria.....121	Diphtheria.....139	Diphtheria.....189	Enteritis.....1,167	Diphtheria.....1,921	Convulsions.....2,859	22.1
Enteritis.....103	Enteritis.....109	Whooping Cough.....164	Diphtheria.....694	Fever, Typhoid, 1,345	Croup.....2,461	19.1

\*Includes Enteritis under 2 years of age. †30 years, 1858 to 1887, inclusive.



The number of deaths from tuberculosis in 1905, was 50 larger than in 1904.

From pneumonia there was an increase of 98 deaths over that of the previous year. The fatality from pneumonia has been slowly increasing, in proportion to whole number of deaths, for the last twenty years.

From diseases of the heart there was an increase of eight deaths from 1904. Diseases of the heart have been steadily increasing as causes of death, the mortality in 1905 being the largest ever recorded in this State.

From kidney diseases there was an increase of but one from the number in 1904.

There were 383 deaths from cancer in 1905, a decrease of 8 from the number in 1904.

COMPARATIVE STATISTICS AND COMMENTS.

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There have been presented in the preceding pages, numerically and in tabular form, the different causes of death in Rhode Island, in 1905, with various summaries and illustrations. In Tables VII and VIII they were presented at considerable length, in various specific terms; in Table IX more or less grouped in a general nosological arrangement; and in Table X the same for a period of fifty-three years.

In Table VII the number of deaths from *each cause* and of *each sex* is shown, for *each month* in the year, and the *nativity* and *parentage* of the decedents from *each cause* during the year.

In Table VIII the number of decedents of *each sex*, from *each cause*, in the *different periods of life*, is given.

In Table IX, with the International classification and percentage of causes of death, the number of each general cause, in each division of larger population, is given.

In Table X a nosological summary of causes of death for the whole State, in each of fifty-three years, is given, arranged by the International system.

Table LX is a compend, in part, of Tables VII, VIII, and IX, previously alluded to, and contains the particulars of the most important causes of death in 1905, and comprises the principal causes which will be commented upon in the following pages:

TABLE LX.

Deaths in Rhode Island from Twenty-six Principal Causes.

	All Tuberculous Diseases.	Pulmonary Tuberculosis.	Other Tuberculous Diseases.	Pneumonia.	Heart Diseases.	Kidney Diseases.	Cholera Infantum.*	Apoplexy.†	Cancer.	Accidents.	Bronchitis.	Brain Diseases.	Old Age.	Stomach Diseases.	Diphtheria.†	Liver Diseases.	Influenza.	Enteritis.‡	Typhoid Fever.	Diabetes.	Appendicitis.	Dysentery.	Whooping Cough.	Measles.	Rheumatism.	Scarlet Fever.	Pleurisy.	Group.
TOTAL MORTALITY.....	1 031	836	195	996	731	622	597	437	383	301	229	226	188	173	121	113	107	103	84	75	60	59	50	44	36	35	31	13
SEX.....																												
{ Males.....	551	441	110	509	362	323	320	186	128	221	119	116	74	88	65	64	35	46	48	31	37	32	26	18	18	15	16	5
{ Females.....	480	395	85	487	369	299	277	251	255	80	110	110	114	85	56	49	72	57	36	44	23	27	24	26	18	20	15	8
PARENTAGE.....																												
{ Native.....	323	254	69	356	329	276	180	219	181	99	71	95	107	69	45	35	54	41	37	37	20	27	26	9	6	15	9	5
{ Foreign.....	708	582	126	640	402	346	417	218	202	202	158	131	81	104	76	78	53	62	47	38	40	32	24	35	30	20	22	8
SEASON.....																												
{ January.....	92	77	15	155	70	50	12	52	31	23	35	15	20	13	16	15	30	4	6	8	3	2	4	...	2	4	6	2
{ February.....	92	73	19	156	65	51	4	42	23	24	30	18	16	5	8	6	34	2	5	8	7	2	2	...	3	4	3	1
{ March.....	113	99	16	176	77	53	8	46	28	25	35	17	22	13	9	16	24	7	5	5	4	1	5	...	2	4	4	...
{ April.....	88	70	18	97	61	49	11	31	28	24	26	28	18	7	8	11	11	8	1	3	4	1	2	4	5	8	2	1
{ May.....	91	67	24	86	62	70	16	23	26	25	16	29	16	26	10	6	2	3	4	7	7	...	2	5	6	3	2	...
{ June.....	72	58	14	58	45	46	31	32	40	31	16	19	17	12	5	9	1	11	3	5	5	5	2	3	3	4	3	1
{ July.....	74	62	12	25	61	48	166	35	39	46	7	18	10	8	11	10	1	11	6	6	7	12	7	3	2	1	3	...
{ August.....	88	69	19	14	55	56	186	21	28	26	3	23	9	26	8	...	27	17	8	6	16	4	4	2	1	2	...	...
{ September.....	83	68	15	30	50	42	84	30	39	21	9	10	11	22	4	8	...	13	11	7	4	14	4	4	5	1	...	...
{ October.....	80	69	11	43	53	43	27	41	23	16	17	16	15	11	6	...	8	14	6	3	4	3	7	3	...	5	1	...
{ November.....	88	75	13	65	62	44	17	46	28	14	13	15	20	14	10	8	2	4	8	7	6	1	7	6	5	4	...	...
{ December.....	70	51	19	91	70	70	17	52	32	19	23	17	13	12	21	10	2	5	7	5	4	1	8	9	2	2	1	1

\* Includes Diarrheal Diseases under 2 years.

† Includes Cerebral Hemorrhage.

‡ Includes Membranous Group.

§ Includes Diarrheal Diseases over 2 years.

TABLE LX.—Concluded.

	All Tuberculous Diseases.	Pulmonary Tuberculosis.	Other Tuberculous Diseases.	Pneumonia.	Heart Diseases.	Kidney Diseases.	Cholera Infantum.*	Apoplexy.†	Cancer.	Accidents.	Bronchitis.	Brain Diseases.	Old Age.	Stomach Diseases.	Diphtheria.†	Liver Diseases.	Influenza.	Enteritis,§	Typhoid Fever.	Diabetes.	Appendicitis.	Dysentery.	Whooping Cough.	Measles.	Rheumatism.	Scarlet Fever.	Pleurisy.	Group.
(Under 5 years.....)	143	39	104	344	11	13	597	.....	44	130	80	.....	115	76	1	11	37	10	.....	3	26	48	40	3	22	3	11	
5 to 10 years.....	17	4	13	24	13	4	.....	.....	18	1	23	.....	2	29	.....	.....	5	9	1	6	2	2	2	2	2	7	3	2
10 to 15 years.....	24	15	9	8	10	5	.....	.....	8	1	7	.....	7	2	1	1	5	3	4	.....	.....	.....	1	4	3	.....	.....	.....
15 to 20 years.....	68	60	8	17	9	10	.....	2	17	2	13	.....	.....	.....	2	.....	1	8	3	8	.....	.....	.....	1	2	1	.....	.....
20 to 30 years.....	268	248	20	40	27	41	.....	3	6	45	2	20	.....	5	3	3	4	4	27	.....	8	.....	.....	.....	4	3	.....	.....
30 to 40 years.....	234	217	17	87	57	62	.....	15	30	50	4	11	.....	8	2	13	4	5	10	4	11	.....	.....	2	3	.....	.....	.....
40 to 50 years.....	134	125	9	103	75	78	.....	29	57	28	3	21	.....	8	.....	22	10	4	3	11	8	2	.....	1	4	.....	.....	.....
50 to 60 years.....	76	68	8	106	123	128	.....	90	107	24	8	20	.....	6	1	29	10	8	6	21	7	4	.....	6	.....	5	.....	.....
60 to 70 years.....	41	37	4	117	169	126	.....	112	84	31	24	22	9	13	1	27	21	18	1	22	3	6	.....	2	.....	3	.....	.....
70 to 80 years.....	23	21	2	88	175	111	.....	127	76	25	29	8	67	12	.....	14	26	12	3	7	2	11	.....	4	.....	2	.....	.....
80 years and over.....	3	2	1	62	62	41	.....	59	23	11	25	1	112	4	.....	2	20	8	2	3	8	.....	.....	4	1	.....	.....	.....
(Bristol County.....)	26	22	4	30	29	20	28	19	16	11	6	9	7	5	3	3	6	4	.....	4	2	2	2	3	4	.....	1	.....
Kent County.....	86	75	11	52	44	45	44	32	25	23	24	12	20	18	10	10	3	7	1	3	.....	5	6	2	2	5	.....	1
Newport County.....	13	10	3	19	18	15	10	10	10	13	3	2	4	6	2	3	2	.....	1	2	.....	.....	6	.....	2	.....	1	1
Newport City.....	42	35	7	37	42	31	28	30	14	17	9	16	22	6	2	3	2	3	2	1	4	2	4	3	2	1	2	.....
Providence County.....	177	152	25	153	140	90	93	68	47	45	29	78	49	16	10	14	16	20	17	16	4	14	8	7	1	1	4	3
Central Falls.....	44	37	7	56	12	18	46	18	9	9	24	15	4	13	5	3	7	8	2	1	1	.....	4	10	2	1	1	1
Pawtucket.....	87	76	11	98	79	43	56	39	38	17	25	12	20	26	9	10	27	8	3	9	2	7	5	7	5	5	.....	.....
Providence City.....	442	337	105	428	295	286	195	182	193	140	82	71	48	65	67	58	36	40	39	26	42	26	9	6	11	19	13	4
Woonsocket.....	76	58	18	56	31	32	84	13	9	12	12	13	7	9	7	3	9	6	3	2	6	3	8	1	1	1	3	.....
Washington County.....	38	34	4	67	41	42	13	23	22	14	10	1	15	7	2	2	5	4	8	7	5	3	1	.....	4	2	3	.....

\* Includes Diarrheal Diseases under 2 years.

† Includes Cerebral Hemorrhage.

‡ Includes Membranous Group.

§ Includes Diarrheal Diseases over 2 years.

## DEATHS FROM ACCIDENTS.

The number of deaths from accidental causes in Rhode Island, in 1905, was 301.

Among the deaths from accidents there were 23 from asphyxia; 21 by burns and scalds; 59 by drowning; 18 by electric car; 4 from electrical shock; 1 by elevator; 1 by exposure to cold and storm; 68 by falls; 3 by firearms; 11 by heat; 5 by machinery; 10 by poison; 36 by railroad; and 41 by various other accidents.

*Asphyxia*.—By bedclothes and overlying, 7 (infants); by illuminating gas, 10 (adults); by chloroform inhalation to extract teeth, 1 (age 9 years); choked by food, 3 (1 infant and 2 adults); suffocated in sliding sand, 1, (age 11 years); by falling into privy vault, 1 (age 7, years). Total, 23.

*Burns and Scalds*.—By clothes taking fire from stove, 3 (adults); by bonfire, 6 (3 children and 3 adults); by upset kerosene lamp, 3 (adults); by explosion of oil can, 2 (adults); playing with matches, 1; scalded by water from hot-water bottle, 1 (adult); by falling into tub of hot water, 3 (children); circumstances unknown in 2 cases. Total, 21.

*Drowning*.—While bathing or swimming, 9 (3 children and 6 adults); while skating, 1 (age 11 years); by falling overboard from small boats, 8 (adults); by capsized boats, 2 (adults); while canoeing, 4; by falling into water while playing on bank, 6 (children); from wharf, 4 (adults); overboard from barge, (1 adult); from wreck of barge, 2 (adults); while diving for lost torpedo at torpedo station, 1 (seaman in U. S. Navy); found in water, circumstances unknown, 21. Total, 59.

*Electric Car*.—Of the persons who were killed by electric cars, 6 were walking on or lying beside tracks in dark places, 4 in collision of cars and teams, 1 in collision of car with bicycle, 2 by jumping or falling from moving car, 1 was thrown from horse directly in front of car, 1, a conductor, who stuck his head out of car door, was struck by passing car, and 3 children by running across track in front of car. Total, 18.

*Electrical Shock*.—While stringing electric wire, 1 (a lineman); shock and fall from pole (a lineman who used neither rubber gloves

nor strap); an electrician in mill while trimming lamp; by touching live wire. Total, 4.

*Elevator.*—By fall into elevator-well in mill, 1 (age, 1 years).

*Exposure to Cold and Storm.*—Found lying in woods, 1 (age 65 years).

*Falls.*—Downstairs or steps, 12 (of these 9 were over 60 years of age and 4 sustained broken hips); from building or staging, 12 (adults); from window, 2 (ages 3 and 72 years); from tree, 1 (age 10 years); from hay loft, 1 (adult); from load of hay, 1 (child); from pile of lumber, 1 (child); from railroad bridge to ground, 1 (age 10 years); from parallel bars, 1 (age 18 years); from air chute, falling upon timber while bathing, 1 (age 11 years); on ice, 3 (adults); on floor, ground, or sidewalk, 32 (17 of these were over 60 years of age, eight of whom sustained fractured hips). Total, 68.

*Firearms.*—Killed by accidental discharge of cannon on yacht, 1 (mate on Aida); by gunshot wound of neck, gun in hand of brother, 1 (age 17 months); by gunshot wound of forehead and brain, the revolver in hands of a woman, 1 (adult). Total, 3.

*Heat.*—Four children and seven adults.

*Machinery.*—Caught in belting or shafting, 3 (adults); caught in machinery at dyeing works and forced against hot cylinders, crushed and burned, 1 (age 40 years); struck by crane in foundry, fractured spine, 1 (age 23 years). Total, 5.

*Poison.*—By wood alcohol mistaken for whiskey, 1 (adult); alcohol drank by child, 1; caustic drank by child, 1; carbolic acid administered to infant in nursing bottle by playmate, 1; carbolic acid given to child by mistake, 1; strychnine tablets mistaken for candy by child, 1; by tablets, "probably No. 3," given for a cold, 1 (age 1 year); overdose of soothing syrup, 1 (age 4 months); by some unknown drug, overdose taken after a drinking bout, 1; ptomaine poisoning by eating decayed apples which had been thrown into barnyard, 1 (age 4 years). Total, 10.

*Railroad.*—Of the employees who were killed, 1 was coupling cars, 1 was struck by overhead bridge, 1 fell from car, 1 riding on car was struck by switch-stand, 1 gateman was struck by switching engine, 1 was run over by coal-car at pier, 1, a track laborer, stepped in front of train, 1 engineer was killed in collision of trains, 2 men were killed



in attempting to board moving trains, 23 were killed while walking on or attempting to cross tracks, and of these 5 were children; 3 were struck by overhead bridge while stealing rides on freight cars. Total, 36.

*Accidents, Various.*—Thrown from carriage or wagon, 4 (adults); struck by team, injuries to chest, 1 (adult); kicked by horse, laceration of scalp, tetanus resulting, 1 (adult); knocked down by horse, fractured femur, 1 (woman, aged 79 years); child struck by ice-cart; run over by heavy teams, 2 (children); by overturning of automobile, 1 (age 17 years); struck by automobile in back, causing paraplegia, 1; by horses starting while unloading leaves in barn, struck head against beam, 1 (adult); crushed by cave-in of trench, ruptured spleen, 1 (adult); fracture of cervical vertebræ while diving in shallow water, 1 (adult); fracture of skull from striking rock under water while diving, 1 (adult); crushed between coal bucket and barge, 1 (adult); crushed by steam roller, 1 (adult); crushed by falling electric light pole, 1 (a teamster); crushed beneath load of logs, 1; crushed by falling tombstone, fractured pelvis and abdominal injuries, 1 (age 4 years); struck on abdomen by plank while working circular saw, 1; blow on abdomen from engine while working on it, 1; fracture of femur while turning over in bed, 1 (age 75 years); shock due to blow on abdomen "while fooling," 1 (age 16); knocked down with fist, striking board floor, 1 (adult); from bruise on hand in foundry septicemia following, 1 (adult); from abrasion of skin on hand and washing in dirty water, 1 (adult); scratch on finger by rusty nail, septicemia, 2 (adults); rusty nail in foot, tetanus following, 1 (adult); stepped on rusty nail, pyemia resulting, 1 (age 12 years); laceration of hand from being caught under window, 1 (age 71 years); splinter in hand, septicemia, 1 (adult); abrasion of ankle, septicemia, 1 (child); cut knee with axe, pyemia, 1 (adult); unknown injury to knee, septicemia, 1 (adult); hammered thumb nail, septicemia, 1 (age 71 years); fracture of skull, exact cause or circumstances unknown, 3. Total, 41.

Comparison of the number of deaths from street car accidents during the last nine years presents the following figures:

	Struck by cars.	Collision of cars.	Otherwise.	Total.
1897.....	4.....	1.....	2.....	7
1898.....	6.....	0.....	1.....	7
1899.....	3.....	1.....	1.....	5
1900.....	8.....	6.....	5.....	19
1901.....	7.....	1.....	3.....	11
1902.....	3.....	0.....	7.....	10
1903.....	10.....	0.....	2.....	12
1904.....	14.....	2.....	3.....	19
1905.....	16.....	0.....	2.....	18

As a result of carelessness on the part of those having the care of children, 3 fell into hot water, the clothing of 3 others caught fire from bonfires, and 1 child received burns which caused death as the result of playing with matches.

It is interesting to note the large number of cases resulting from fractures of the long bones as the consequence of a slight fall. This is especially noticeable in fractures of the hip in old people. Out of the 68 who died from the result of falls, 31 were over 60 years of age; and of these 31, 12 sustained fractures of hip.

Of the whole number of deaths by accidents, 221 were males and 80 were females; 99 were of native and 202 were of foreign parentage, or 32.9 per cent. of native to 67.1 per cent. of foreign.

Of the sexes, the proportion was 73.4 per cent. of male decedents to 26.6 of female decedents.

In regard to the periods of life, the decedents from accidental causes were divided as follows: under 5 years, 44; 5 and under 10, 18; between 10 and 20, 25; between 20 and 40, 95; between 40 and 60, 52; over 60, 67.

In regard to sectional divisions of the State, 11 of the deaths from accidental causes were in Bristol county; 23 in Kent county; 30 in Newport county; 223 in Providence county; and 14 in Washington county.

The whole number of deaths from accidental causes, in 1905, *in proportion to the whole number of deaths* in the State, was 36.6 in every one thousand. The number in proportion to the whole *population* was .63 in every one thousand.

The number of deaths by accidents in each division of the year was as follows:

First Quarter.....	72	Third Quarter.....	93
Second Quarter.....	80	Fourth Quarter.....	56
	—		—
First half.....	152	Second half.....	149
Whole year.....	301.		

In the following table may be found the number, sex, parentage, and locality of mortality from accidents, for forty years, ending December 31, 1905:

TABLE LXI.

*Mortality in the State from Accidents, with the Percentage of the Whole Number of Deaths, Sex, Parentage, and Locality for forty years, from 1866 to 1905, inclusive, in three periods of five years each, and for each of the last twenty-five years.*

YEARS.	Whole Number.	VARIETIES.								Per cent.	SEX.		PARENTAGE		STATE DIVISIONS.					
		Burns and Scalds.	Drowning.	Falls.	Fractures and Contusions.	Poisoning.	Railroad.	Suffocation.	Various and Unspecified.		Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years.																				
1866-1870.	490	77	124	89	....	14	43	....	143	2.18	375	115	238	252	22	34	46	187	162	39
5 years.																				
1871-1875.	610	78	164	90	....	21	71	....	186	2.97	493	117	283	327	26	46	50	200	240	8
5 years.																				
1876-1880.	607	75	166	69	....	28	58	14	197	2.72	450	157	249	358	17	53	47	178	281	4
1881.....	155	16	29	19	....	9	20	19	43	3.09	107	48	62	93	5	17	12	60	56	5
1882.....	178	17	40	31	....	6	16	8	60	3.50	130	48	72	106	5	9	15	60	80	9
1883.....	153	18	27	21	....	6	16	12	53	2.83	117	36	61	92	4	8	9	63	66	3
1884.....	197	20	41	31	....	7	16	11	71	3.82	147	50	90	107	5	19	14	65	76	18
1885.....	173	19	42	25	....	9	15	9	54	3.20	135	38	72	101	5	6	8	58	83	13
1881-1885.	856	90	179	127	....	37	83	59	281	3.26	636	220	357	499	24	59	58	306	361	48
1886.....	190	23	58	19	....	6	20	9	55	3.25	141	49	84	106	16	11	16	62	72	13
1887.....	206	17	39	17	23	7	24	14	65	3.24	158	48	92	114	5	11	23	81	71	15
1888.....	190	27	46	18	8	12	25	8	46	2.87	145	45	63	127	4	6	14	70	88	8
1889.....	216	20	52	31	25	7	23	9	49	4.10	146	70	88	128	2	14	13	73	101	13
1890.....	250	20	71	32	26	11	31	12	47	3.60	199	51	99	151	7	17	24	75	111	16
1886-1890.	1052	107	266	117	82	43	123	52	262	3.29	789	263	426	626	34	59	90	361	443	65
1891.....	233	18	52	21	29	16	30	17	50	3.54	174	59	78	155	5	18	16	95	89	10
1892.....	309	21	48	33	60	20	29	8	90	4.18	225	84	115	194	8	13	21	100	158	9
1893.....	264	26	47	25	25	14	39	14	74	3.55	195	69	88	176	9	21	21	75	126	12
1894.....	234	28	52	29	20	8	36	21	40	3.27	189	45	74	160	6	24	18	88	81	17
1895.....	293	28	61	57	2	8	36	26	75	3.89	233	60	88	205	6	23	13	85	141	25
1891-1895.	1333	121	260	165	136	66	170	86	329	3.69	1016	317	443	890	34	99	89	443	595	73
1896.....	296	25	39	48	....	8	36	24	116	3.94	226	70	101	195	6	25	24	85	139	17
1897.....	263	41	40	64	....	7	24	22	65	3.70	197	66	94	169	12	15	22	87	115	12
1898.....	296	21	60	58	....	8	30	19	100	4.29	233	63	111	185	11	18	26	85	134	22
1899.....	276	28	45	61	....	7	38	31	66	3.70	217	59	109	167	9	16	30	82	125	14
1900.....	336	33	64	72	....	16	26	29	96	3.81	254	82	110	226	15	30	12	101	159	19
1896-1900.	1467	148	248	303	....	46	154	125	443	3.88	1127	340	525	942	53	104	114	440	672	84
1901.....	346	36	57	60	18	6	33	33	103	4.34	267	79	123	223	12	21	18	102	175	18
1902.....	317	34	47	74	15	9	45	27	66	3.98	244	73	121	196	8	14	26	93	161	15
1903.....	376	34	72	79	17	10	52	31	81	4.35	276	100	135	241	16	27	24	114	171	24
1904.....	321	28	51	75	24	5	40	26	72	3.96	245	76	116	205	13	24	27	104	136	17
1905.....	301	21	59	68	23	10	36	23	61	3.66	221	80	99	202	11	23	30	83	140	14
1901-1905.	1661	153	286	356	97	40	206	140	383	4.05	1253	408	594	1067	60	109	125	496	783	88
40 years...	8076	849	1693	1316	315	295	908	476	2224	3.50	6139	1937	3115	4961	270	563	619	2611	3537	476

\* Exclusive of Providence city.

TABLE LXII.

*Mortality in the State from Alcoholism, with the Percentage of the Whole Number of Deaths, Sex, Parentage, and Locality, for forty years, from 1866 to 1905, inclusive.*

YEARS.	Number of Deaths from Alcoholism.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1866-1870	62	.40	53	9	32	30	5	6	6	18	25	2
5 years, 1871-1875	93	.45	73	20	37	56	2	6	9	25	48	3
5 years, 1876-1880	79	.35	52	27	25	54	2	4	6	18	45	4
1881.....	24	.51	17	7	5	19	1	.....	1	7	14	1
1882.....	28	.58	16	12	8	20	.....	.....	.....	9	18	1
1883.....	29	.54	17	12	7	22	.....	1	1	10	16	1
1884.....	27	.53	19	8	10	17	.....	1	4	9	12	1
1885.....	22	.41	16	6	6	16	2	1	.....	11	7	1
1881-1885.....	130	.50	85	45	36	94	3	3	6	46	67	5
1886.....	12	.20	9	3	2	10	1	.....	1	3	7	.....
1887.....	16	.25	14	2	4	12	2	2	2	5	4	1
1888.....	16	.32	10	6	5	11	.....	.....	2	5	9	.....
1889.....	31	.50	23	8	12	19	2	1	1	13	14	.....
1890.....	25	.37	20	5	8	17	2	.....	.....	11	11	1
1886-1890.....	100	.31	76	24	31	69	7	3	6	37	45	2
1891.....	29	.47	22	7	8	21	1	1	4	10	13	.....
1892.....	36	.48	27	9	8	28	1	.....	4	12	17	2
1893.....	44	.59	34	10	15	29	.....	3	7	9	23	2
1894.....	39	.54	33	6	12	27	1	4	2	14	16	2
1895.....	24	.32	19	5	5	19	.....	.....	.....	10	13	1
1891-1895.....	172	.48	135	37	48	124	3	8	17	55	82	7
1896.....	34	.45	28	6	7	27	1	2	6	10	14	1
1897.....	36	.51	26	10	10	26	.....	1	5	11	15	4
1898.....	45	.65	37	8	13	32	.....	3	3	13	22	4
1899.....	34	.45	26	8	9	25	1	3	4	9	16	1
1900.....	62	.70	47	15	12	50	1	2	3	12	42	2
1896-1900.....	211	.56	164	47	51	160	3	11	21	55	109	12
1901.....	40	.50	35	5	13	27	2	2	3	15	17	1
1902.....	39	.49	36	3	10	29	.....	2	3	15	18	1
1903.....	50	.58	42	8	15	35	.....	3	4	8	32	3
1904.....	61	.75	51	10	18	43	2	3	5	18	31	2
1905.....	81	.99	63	18	21	60	.....	5	4	22	43	7
1901-1905.....	271	.66	227	44	77	194	4	15	19	78	141	14
Total 40 years.	1,118	.48	765	253	337	781	29	56	90	332	562	49

\* Exclusive of Providence city.

## APOPLEXY.

There were 437 deaths from apoplexy, including cerebral hemorrhage, in Rhode Island, in 1905, according to the returns. The number reported is 23 less than in the year 1904.

The whole number of deaths from apoplexy represents 5.32 per cent. of *all causes*, and a proportion of 0.91 to every one thousand of the population.

Of the sexes, there were 186 males and 251 females.

Of parentage, 219 were of native parentage, and 218 of foreign.

Previous to 1904 the native population has been, in a large proportion, more prone to apoplexy than the foreign, or the children of the foreign, population. In 1904 the deaths of foreign parentage exceeded the native by 32.

The following Table will present the sex, parental, and local relations of apoplexy, including cerebral hemorrhage, as cause of death, during the last forty years (Providence city not included in the Providence county statement):



TABLE LXIII.

*Mortality in the State from Apoplexy, 1865 to 1905, inclusive.*

YEARS.	Total Deaths for Year.	Number from Apoplexy.	Per cent.	SEX.		PARENT-AGE.		DIVISIONS OF THE STATE.					
				Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
1866-1870.....	15,391	574	3.73	284	290	464	110	52	43	77	145	224	33
1871.....	3,344	156	4.66	73	83	113	43	10	17	15	40	61	13
1872.....	4,247	125	2.97	62	63	96	29	17	9	10	27	52	10
1873.....	4,403	134	3.04	59	75	109	25	9	8	17	26	57	17
1874.....	4,229	156	3.69	84	72	120	36	14	10	16	42	59	15
1875.....	4,317	166	3.61	79	87	133	33	7	13	17	48	75	8
1871-1875.....	20,540	737	3.59	357	380	571	166	57	57	75	181	304	63
1876.....	4,116	165	4.01	79	86	130	35	13	11	13	45	68	15
1877.....	4,450	181	4.07	87	94	123	58	10	10	16	52	74	19
1878.....	4,441	188	4.23	104	84	125	43	12	16	21	58	66	15
1879.....	4,472	220	4.92	114	106	146	74	12	9	29	71	89	10
1880.....	4,829	215	4.67	109	106	157	58	18	13	22	71	78	13
1876-1880.....	22,308	909	4.77	493	476	701	268	65	59	101	297	375	72
1881.....	5,016	244	4.86	116	128	170	74	17	15	25	70	101	16
1882.....	5,074	265	5.22	139	126	168	97	15	29	24	65	117	15
1883.....	5,282	275	5.22	138	137	192	83	11	28	22	75	118	21
1884.....	5,141	298	5.80	135	163	376	122	21	14	28	108	105	22
1885.....	5,389	289	5.38	144	145	183	106	16	18	28	99	110	18
1881-1885.....	25,902	1,371	5.29	672	699	889	482	80	104	127	417	651	92
1886.....	5,849	333	5.70	173	160	230	103	11	27	32	108	120	35
1887.....	6,340	328	5.17	161	167	213	115	21	27	23	101	128	28
1888.....	6,594	367	5.41	164	203	234	133	29	26	29	113	137	33
1889.....	6,259	323	5.17	140	183	205	119	23	32	28	101	106	33
1890.....	6,934	341	4.91	168	173	206	135	21	21	23	110	144	22
1886-1890.....	31,976	1,692	5.29	806	886	1,087	605	105	133	135	533	635	151
1891.....	6,620	335	5.08	160	175	207	128	17	29	32	118	118	21
1892.....	7,396	362	4.29	176	186	195	167	12	29	39	124	134	24
1893.....	7,440	407	5.47	206	201	227	180	21	28	26	138	171	23
1894.....	7,160	445	6.22	231	214	243	202	19	33	40	155	165	33
1895.....	7,535	417	5.53	199	218	238	179	18	29	30	150	153	37
1891-1895.....	36,151	1,966	5.71	972	994	1,110	856	87	148	167	665	741	138
1896.....	7,504	419	5.58	199	220	235	184	20	30	42	146	141	40
1897.....	7,110	469	6.70	229	240	263	206	13	33	40	175	184	24
1898.....	6,905	416	6.02	203	213	245	171	17	30	48	136	152	33
1899.....	7,458	457	6.13	210	247	230	227	19	32	36	154	179	37
1900.....	8,823	506	5.74	248	258	275	231	18	38	49	175	189	37
1896-1900.....	37,800	2,267	6.00	1,089	1,178	1,248	1,019	87	163	215	786	845	171
1901.....	7,966	499	6.27	223	276	253	246	26	45	51	155	181	41
1902.....	7,955	476	5.98	212	264	244	232	17	37	45	175	176	26
1903.....	8,642	394	4.56	169	225	204	190	22	33	42	132	143	22
1904.....	8,107	460	5.67	216	244	214	246	25	39	37	153	182	24
1905.....	8,212	437	5.32	186	251	219	218	19	32	40	138	185	23
1901-1905.....	40,882	2,266	5.54	1,066	1,260	1,134	1,132	109	186	215	753	867	136
Total 40 years.....	230,950	11,842	5.13	5,679	6,163	7,204	4,638	642	893	1,112	3,797	4,642	856

\* Not Including Providence city.





## APPENDICITIS.

From a greater perfection in diagnosis of disease of the adominal viscera, the disease known as appendicitis has received greater attention. This was probably reported in previous years under the head of diseases of the bowels, intussusception, or peritonitis.

During 1905 there were 60 deaths from appendicitis reported, and of this number operations were performed in 40 cases.

As there were 17 deaths from peritonitis in 1905, this would represent seventy-eight per cent. of the combined numbers.

Of the 60 cases of appendicitis, 37 were males and 23 were females; 20 were of native and 40 of foreign parentage.

## BRAIN DISEASES.

The number of decedents from diseases of the brain proper, in 1905, was 226.

This number represents 2.74 per cent. of *all causes*, and a proportion of .47 to every one thousand of the whole *population*.

Of the 226 decedents, 116 were males and 110 were females.

In regard to parentage, 95 were of native and 131 of foreign parentage.

The deaths in the different seasons of the year were as follows:

First Quarter.....	50	Third Quarter.....	51
Second Quarter.....	76	Fourth Quarter.....	49
<hr/>		<hr/>	
First half.....	126	Second half.....	100
Whole year.....		226	

Brain diseases occur largely in children. Of the 226 decedents from those causes, in 1905, 80 were under five years of age.

The following Table will present the statistics of mortality from diseases of the brain, for forty years:

TABLE LXV.

*Mortality in the State from Brain Diseases, with the Percentage, Sex, Parentage, and Locality, for forty years, from 1866 to 1905, inclusive.*

YEARS.	Number of Deaths from Brain Diseases.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
1866-1870.....	465	3.02	249	216	274	191	21	24	34	139	222	25
1871-1875.....	607	2.95	331	276	358	249	12	32	39	167	337	20
1876.....	150	3.64	92	58	89	61	3	11	7	39	85	5
1877.....	160	3.59	88	72	91	69	3	7	11	49	95	5
1878.....	142	3.19	75	67	76	66	1	13	12	45	68	3
1879.....	163	3.65	82	81	88	75	3	13	15	51	75	6
1880.....	164	3.39	87	77	89	75	3	6	12	56	81	6
1876-1880.....	779	3.49	424	355	433	346	13	50	57	240	394	25
1881.....	186	3.69	103	83	85	101	7	11	14	58	91	5
1882.....	181	3.50	93	88	92	89	4	10	10	71	80	6
1883.....	187	3.54	96	91	100	87	8	14	15	52	94	4
1884.....	148	2.88	90	58	77	71	4	9	8	41	83	3
1885.....	189	2.51	98	91	94	95	2	11	20	53	100	3
1881-1885.....	891	3.44	480	411	448	443	25	55	67	275	448	21
1886.....	182	3.09	108	74	84	98	4	14	13	69	78	4
1887.....	203	3.21	120	83	103	100	8	9	14	75	95	2
1888.....	212	3.21	114	98	109	103	4	19	12	76	90	11
1889.....	189	3.58	91	98	96	93	5	12	17	72	78	5
1890.....	217	3.13	113	104	119	98	7	13	17	90	85	5
1886-1890.....	1,003	3.14	546	457	511	492	28	67	73	382	426	27
1891.....	222	3.36	135	87	108	114	8	19	19	93	78	5
1892.....	246	3.33	130	116	122	124	8	22	27	96	83	10
1893.....	257	3.46	139	118	116	141	12	17	23	100	98	7
1894.....	221	3.09	122	99	93	128	4	24	13	82	84	14
1895.....	258	3.42	123	135	126	132	14	25	22	81	105	11
1891-1895.....	1,204	3.33	649	555	565	639	46	107	104	452	448	47
1896.....	299	3.98	152	147	136	163	10	24	38	139	79	9
1897.....	328	4.61	179	149	151	177	7	26	30	178	78	9
1898.....	327	4.73	176	151	131	196	5	26	26	157	100	13
1899.....	267	3.58	143	124	117	150	8	16	20	143	77	3
1900.....	290	3.29	161	129	126	164	3	26	34	151	69	7
1896-1900.....	1,511	4.00	811	700	661	850	33	118	148	768	403	41
1901.....	281	3.52	143	138	103	178	7	25	29	127	90	3
1902.....	268	3.37	134	134	109	159	6	26	25	126	80	5
1903.....	204	2.36	103	101	74	130	2	14	15	112	56	5
1904.....	235	2.90	123	112	102	133	5	22	15	123	67	3
1905.....	226	2.74	116	110	95	131	6	12	18	118	71	1
1901-1905.....	1,214	2.98	619	595	483	731	26	99	102	606	364	17
Total, 40 years..	8,662	3.75	4,612	4,050	4,121	4,541	224	639	708	3,517	3,335	239

\*Not including Providence city.

## BRONCHITIS.

The number of decedents, in 1905, whose deaths were reported as having been caused by bronchitis, was 229. This is 7 less than in 1904.

This number represents 2.67 per cent. of *all causes*, and a proportion of .48 to every one thousand of the *population*.

Of the 229 decedents, 119 were males and 110 were females; or at the rate of 92 males to each 100 females.

In relation to parentage, 71 were of native and 158 of foreign parentage.

In regard to age, 130 of the decedents were under 5 years of age, 4 were between 5 and 20 years, 6 between 20 and 40 years, 11 between 40 and 60 years; and of the remaining 78 decedents, above 60 years of age, there were 34 deaths from chronic bronchitis.

During the first four months of the year the decedents from bronchitis numbered 126, during the last four months the number was 61.

The increase in the proportionate mortality from bronchitis, during the last twenty-five years, will scarcely fail to be noticed in Table LXVI.

The following Table will show various facts in relation to the mortality from bronchitis, for forty years:

TABLE LXVI.

*Mortality in the State from Bronchitis, forty years, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
1866-1870.....	99	.64	43	56	47	52	1	4	7	29	56	2
1871.....	24	.78	10	14	11	13	.....	1	1	5	17	.....
1872.....	25	.65	10	15	11	14	1	1	1	6	16	.....
1873.....	27	.64	12	15	11	16	.....	.....	1	7	18	1
1874.....	39	.96	22	17	12	27	.....	.....	.....	6	32	1
1875.....	57	1.39	32	25	29	28	.....	.....	1	21	33	2
1871-1875.....	172	.84	86	86	74	98	1	2	4	45	116	4
1876.....	57	1.46	23	34	26	31	.....	2	.....	7	46	2
1877.....	69	1.62	32	37	35	34	1	1	1	22	44	.....
1878.....	80	1.89	30	50	37	43	1	2	6	22	48	1
1879.....	62	1.47	31	31	31	31	1	1	5	21	34	.....
1880.....	91	1.86	49	42	44	47	1	6	6	21	56	1
1876-1880.....	359	1.61	165	194	173	186	4	12	18	93	228	4
1881.....	84	.67	48	36	39	45	1	1	2	25	53	2
1882.....	100	1.27	39	61	47	53	3	2	6	25	60	4
1883.....	111	2.10	56	55	51	60	5	2	3	42	57	2
1884.....	118	2.29	58	60	40	78	6	.....	8	42	62	.....
1885.....	168	3.08	82	86	91	77	5	3	13	71	76	.....
1881-1885.....	581	2.24	283	298	268	313	20	8	32	205	308	8
1886.....	174	2.96	75	99	81	93	3	4	9	74	83	1
1887.....	176	2.77	90	86	60	116	3	6	19	63	84	1
1888.....	228	3.45	105	123	79	149	3	4	17	110	88	6
1889.....	260	4.20	128	132	90	170	4	8	18	109	110	11
1890.....	275	4.01	140	135	116	159	5	4	15	107	138	6
1886-1890.....	1,113	3.48	538	575	426	687	18	26	78	463	503	25
1891.....	247	3.74	108	139	95	152	13	15	21	85	111	2
1892.....	308	4.16	147	161	117	191	5	15	21	130	130	7
1893.....	315	4.24	164	151	105	210	4	9	21	150	126	5
1894.....	254	3.55	112	142	82	172	4	15	11	98	120	6
1895.....	274	3.64	133	141	92	182	8	15	19	103	122	7
1891-1895.....	1,398	3.87	664	734	491	907	34	69	93	566	609	27
1896.....	276	3.68	143	133	101	175	8	19	9	112	116	12
1897.....	226	3.18	123	103	83	143	6	19	13	88	94	6
1898.....	236	3.42	109	127	76	160	6	14	11	87	103	15
1899.....	241	3.23	118	123	73	168	7	16	10	96	103	9
1900.....	295	3.34	143	152	116	179	6	30	22	101	127	9
1896-1900.....	1,274	3.37	636	638	449	825	33	98	65	484	543	51
1901.....	232	2.91	111	121	88	144	.....	16	7	94	100	15
1902.....	259	3.26	117	142	86	173	7	17	6	105	113	11
1903.....	265	3.07	128	137	79	186	3	15	7	108	127	5
1904.....	236	2.91	114	122	82	154	9	22	11	103	83	8
1905.....	229	2.67	119	110	71	158	11	24	12	90	82	10
1901-1905.....	1,221	2.96	589	632	406	815	30	94	43	500	505	49
Total, 40 years...	6,217	2.69	3,004	3,213	2,334	3,883	141	313	340	2,385	2,868	170

\*Exclusive of Providence city.

## CANCER.

There were 383 decedents, in 1905, whose deaths were caused by cancer, according to the returns. The term cancer includes all the various kinds, and in whatever place located.

This number represents 4.66 per cent. of *all causes*, and a proportion of .80 to every one thousand of the *population*.

The varieties of cancer, as reported, may be found in Tables VII and VIII, on pages 22, 23, 35, and 36. They are classed in Table IX as follows: cancer of the buccal cavity, 12; cancer of the stomach and liver, 134; cancer of the peritoneum, intestines, and rectum, 41; cancer of the female genital organs, 86; cancer of the breast, 50; cancer of the skin, 13; cancer of other organs and organs not specified, 47.

In 1905 the deaths from cancer, in the several divisions of the year, were as follows:

First Quarter.....	82	Third Quarter.....	106
Second Quarter.....	94	Fourth Quarter.....	101
First half.....	176	Second half.....	207
Whole year.....		383	

*Sex*.—Of the 383 decedents from cancer, 128 were males and 255 were females; or 33 males and 67 females in every 100.

*Parentage*.—There were 181 of native parentage and 202 of foreign.

The following Table will show the facts of mortality from cancer, in relation to sex, parentage, and locality, for forty years:



TABLE LXVII.

*Mortality in the State from Cancer 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1866-1870	328	2.13	98	230	269	59	19	33	38	87	131	20
1871.....	66	2.13	25	41	47	19	.....	7	5	25	25	4
1872.....	95	2.46	26	69	66	29	4	7	9	21	50	4
1873.....	106	2.53	45	61	76	30	4	6	12	32	44	8
1874.....	87	2.13	23	64	67	20	4	6	12	24	38	3
1875.....	95	2.31	24	71	62	33	3	6	7	25	49	5
1871-1875.....	449	2.18	143	306	318	131	15	32	45	127	206	24
1876.....	106	2.72	27	79	72	34	5	6	8	27	53	7
1877.....	135	3.17	29	106	87	48	3	7	9	37	66	13
1878.....	119	2.82	38	81	79	40	5	11	8	37	48	10
1879.....	125	2.96	39	86	70	55	9	6	9	28	66	7
1880.....	125	2.72	45	80	73	52	5	10	12	26	68	4
1876-1880.....	610	2.73	178	432	381	229	27	40	46	155	301	41
1881.....	145	2.90	40	105	90	55	8	10	12	42	65	8
1882.....	132	2.75	40	92	82	50	5	15	9	43	52	8
1883.....	169	3.20	51	118	105	64	3	17	12	49	86	2
1884.....	156	3.05	39	117	88	68	2	18	21	41	70	4
1885.....	193	3.59	52	141	114	79	8	9	8	67	88	13
1881-1885.....	795	3.07	222	573	479	316	26	69	62	242	361	35
1886.....	162	2.77	42	120	75	87	6	11	9	37	87	12
1887.....	159	2.50	49	110	86	63	8	5	10	49	80	7
1888.....	193	2.93	67	126	128	65	9	10	12	57	88	17
1889.....	189	3.03	65	124	104	85	4	10	13	57	82	23
1890.....	165	2.41	56	109	92	73	14	10	13	46	74	8
1886-1890.....	868	2.71	279	589	495	373	41	46	57	246	411	67
1891.....	177	2.67	48	129	104	73	8	11	15	46	83	14
1892.....	181	2.45	53	128	103	78	7	16	16	57	75	10
1893.....	205	2.75	54	151	124	81	6	15	17	56	92	19
1894.....	214	2.99	67	147	121	93	13	11	23	75	73	19
1895.....	234	3.11	74	160	106	128	13	12	17	79	96	17
1891-1895.....	1,011	2.79	296	715	558	453	47	65	88	313	419	79
1896.....	226	3.01	61	165	117	109	6	21	12	81	89	17
1897.....	254	3.57	77	177	128	126	12	14	22	86	103	17
1898.....	279	4.04	83	196	159	120	18	18	24	75	119	25
1899.....	292	3.92	95	197	135	157	11	16	29	83	132	21
1900.....	292	3.31	96	196	144	148	18	19	15	87	132	21
1896-1900.....	1,343	3.55	412	931	683	660	65	88	102	412	575	101
1901.....	306	3.84	97	209	145	161	6	13	35	90	142	20
1902.....	341	4.29	124	217	179	162	12	19	27	109	147	27
1903.....	350	4.05	121	229	153	197	11	21	24	109	154	31
1904.....	401	4.95	130	271	187	214	9	19	28	129	188	28
1905.....	383	4.66	128	255	181	202	16	25	24	103	193	22
1901-1905.....	1,781	4.36	600	1,181	845	936	54	97	138	540	824	128
Total, 40 years...	7,185	3.11	2,228	4,957	4,028	3,157	294	470	576	2,122	3,228	495

\*Exclusive of Providence city.

## CHILD-BIRTH.

Under the head of "Child-birth" are included, in this connection, whatever causes of death that may have occurred as the direct result of child-birth, or parturition.

The number reported in 1905 was 98, and the causes given were as follows:

Puerperal Septicemia.....	37
Puerperal Nephritis and Eclampsia .....	26
Puerperal Peritonitis.....	13
Puerperal Embolism.....	3
Post-partum Hemorrhage.....	8
Placenta Previa.....	3
Difficult and Prolonged Labor.....	3
Pernicious Vomiting of Pregnancy.....	1
Extra Uterine Pregnancy.....	2
Ectopic Gestation.....	1
Miscarriage.....	1

Of the whole number, 16 were of native and 82 of foreign parentage.

This number represents 1.19 per cent. of *all causes*, and a proportion of .20 to every one thousand of the *population*.

There were 8 more deaths from "child-birth" in 1905 than in 1904.

The following Table will present the various relations in regard to the mortality from child-birth, for forty years. 1866-1905.

TABLE LXVIII.

*Mortality in the State from Child-birth, with the Percentage of the Whole Number of Deaths, Percentage, and Locality, for forty years, from 1866 to 1905, inclusive.*

YEARS.	Number of Deaths from Child-birth.	Per cent.	PARENTAGE.		DIVISIONS OF THE STATE.					
			Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
1866-1870.....	155	1.01	62	93	7	6	16	59	56	11
1871-1875.....	245	1.19	111	134	7	21	12	76	110	10
1876.....	48	1.24	21	27	3	.....	1	18	23	3
1877.....	46	1.09	18	28	4	3	5	17	17	.....
1878.....	43	1.01	23	20	2	4	3	9	21	4
1879.....	43	1.02	21	22	1	7	2	6	23	4
1880.....	51	1.01	23	28	4	4	3	10	27	3
1876-1880.....	231	1.04	106	125	14	18	14	60	111	14
1881.....	60	1.28	26	34	1	1	3	22	29	4
1882.....	50	1.03	18	32	.....	5	1	16	27	1
1883.....	58	1.10	26	32	1	5	9	14	27	2
1884.....	47	.91	17	30	.....	3	3	19	18	4
1885.....	47	.87	21	26	.....	3	4	15	24	1
1881-1885.....	262	1.04	108	154	2	17	20	86	125	12
1886.....	41	.70	17	24	.....	4	4	15	17	1
1887.....	53	.71	15	38	.....	5	4	8	26	.....
1888.....	51	.77	13	38	.....	3	.....	25	20	3
1889.....	41	.65	14	27	1	5	2	16	13	4
1890.....	41	.58	12	29	3	4	4	10	17	3
1886-1890.....	274	.86	92	182	4	24	18	99	117	12
1891.....	32	.35	8	24	.....	3	.....	8	19	2
1892.....	75	1.01	29	46	1	9	3	24	29	9
1893.....	57	.76	23	34	.....	5	4	15	29	4
1894.....	72	1.01	15	57	.....	8	3	25	32	4
1895.....	55	.73	16	39	.....	3	.....	18	30	4
1891-1895.....	291	.77	91	200	1	28	10	90	139	23
1896.....	50	.67	16	34	.....	2	1	24	17	6
1897.....	57	.80	18	39	2	8	.....	21	22	4
1898.....	71	1.03	22	49	1	6	1	28	32	3
1899.....	55	.74	11	44	1	7	3	15	27	2
1900.....	99	1.12	27	72	2	11	4	31	47	4
1896-1900.....	332	.88	94	238	6	34	9	119	145	19
1901.....	95	1.19	38	57	.....	8	6	36	42	3
1902.....	72	.91	15	57	1	6	7	25	32	1
1903.....	60	.70	16	44	1	5	5	14	31	4
1904.....	90	1.11	27	63	1	8	7	22	47	5
1905.....	98	1.17	16	82	2	4	6	31	51	4
1901-1905.....	415	1.02	112	303	5	31	31	128	203	17
Total, 40 years.....	2,205	95	776	1,429	46	179	130	717	1,006	127

\*Exclusive of Providence city.

## CHOLERA INFANTUM.

The number of deaths from cholera infantum, or diarrhea and enteritis, under 2 years, according to the returns for 1905, was 597.

This number represents 7.27 per cent. of deaths from *all causes*, and a proportion of 1.24 to every one thousand of the *population*.

Of the 597 decedents, 320 were males and 277 were females.

Of parentage, 180 were of native and 417 of foreign parentage; or about 232 of foreign to every 100 of native parentage.

As may be seen on the following page, the number of decedents from cholera infantum, during the forty years from 1866 to 1905, inclusive, was 14,940.

The proportion to total mortality, for the period of forty years, was 6.47 per cent.

There were 113 males to every 100 females among the decedents during the forty years; and 170 decedents of foreign parentage to every 100 of native, during the same period.

The following Table shows the whole number of reported deaths from cholera infantum; the sex and parentage of the decedents; and the number in each of the larger divisions of the State in each of the last forty years:

TABLE LXIX.

*Mortality in the State from Cholera Infantum, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence, County.*	Providence City.	Washington County.
5 years, 1866-1870.	745	4.84	403	342	352	393	39	44	46	245	324	47
1871.....	172	4.82	85	87	82	90	14	12	12	59	62	13
1872.....	391	8.71	195	196	167	224	16	16	21	157	151	30
1873.....	285	6.19	148	137	165	120	17	14	16	120	99	19
1874.....	265	5.86	140	125	115	150	4	12	5	84	134	26
1875.....	318	6.97	156	162	155	163	20	16	20	108	136	18
1871-1875.....	1,431	6.97	724	707	684	747	71	70	74	528	582	106
1876.....	250	5.75	131	119	105	145	5	12	29	68	124	12
1877.....	259	5.52	139	120	96	163	12	13	9	96	122	7
1878.....	168	3.58	96	72	73	95	7	14	7	64	71	5
1879.....	161	3.43	88	73	71	90	8	16	21	51	59	6
1880.....	247	5.12	123	124	109	138	13	11	10	93	100	20
1876-1880.....	1,085	4.86	577	508	454	631	45	66	76	372	476	50
1881.....	240	4.54	130	110	102	138	10	22	14	75	102	17
1882.....	325	6.10	173	152	133	192	20	11	19	132	130	13
1883.....	242	4.37	124	118	104	138	12	7	22	88	108	5
1884.....	325	6.00	177	148	139	186	10	12	26	114	144	19
1885.....	279	4.92	150	129	128	151	5	23	16	133	86	16
1881-1885.....	1,411	5.45	754	657	606	805	57	75	97	452	570	70
1886.....	377	6.14	179	198	143	234	4	29	15	194	120	15
1887.....	355	5.36	200	155	145	210	16	16	35	160	119	9
1888.....	467	6.78	239	228	184	283	18	35	28	219	149	18
1889.....	396	6.01	209	187	132	264	18	32	20	199	116	11
1890.....	582	8.01	282	300	202	380	19	57	33	245	209	19
1886-1890.....	2,177	6.81	1,109	1,068	806	1,371	75	169	131	1,017	713	72
1891.....	546	8.25	298	248	170	376	21	68	50	255	137	16
1892.....	633	8.56	336	297	210	423	18	77	43	281	201	13
1893.....	603	8.10	324	279	186	417	11	82	44	267	183	16
1894.....	496	6.93	243	253	162	334	13	76	25	225	130	27
1895.....	500	6.64	268	232	155	345	14	57	19	241	150	19
1891-1895.....	2,778	7.55	1,469	1,309	883	1,895	77	360	181	1,209	801	90
1896.....	545	7.26	313	232	165	380	5	62	38	277	148	15
1897.....	425	5.98	204	221	160	265	12	63	30	179	120	21
1898.....	468	6.78	240	228	163	305	14	62	28	211	144	9
1899.....	473	6.34	265	208	127	346	32	48	23	220	139	11
1900.....	557	6.54	311	246	207	350	19	60	47	281	125	25
1896-1900.....	2,468	6.53	1,333	1,135	822	1,646	82	295	166	1,168	676	81
1901.....	401	5.03	215	186	132	269	6	38	20	187	146	4
1902.....	611	7.68	333	278	199	412	24	67	50	230	236	4
1903.....	638	7.38	355	283	209	429	29	53	24	244	273	15
1904.....	598	7.38	328	270	202	396	22	80	24	208	250	14
1905.....	597	7.27	320	277	180	417	28	44	38	279	195	13
1901-1905.....	2,845	6.95	1,551	1,294	922	1,923	109	282	156	1,148	1,100	50
Total, 40 years....	14,940	6.47	7,920	7,020	5,529	9,411	555	1,361	927	6,289	5,242	566

\*Exclusive of Providence city.

## TUBERCULOUS DISEASES.\* (CONSUMPTION.)

The decedents from tuberculous diseases (consumption), during 1905, numbered 1,031. The number is larger by 50 than that of the preceding year.

This number represents 12.55 per cent. of *all causes*, and a proportion of 2.15 to every one thousand of the *population*.

Of these, 836 deaths were from pulmonary tuberculosis and 195 from other tuberculous diseases.

*Sex.*—Of these 1,031 decedents, 551 were males and 480 were females; being about 87 female decedents to every 100 male decedents.

For the period of thirty years (1866–1895) there were 117 females to every 100 male decedents from tuberculous diseases (consumption), but for the five years 1901–1905 there were but 89 females to every 100 male decedents.

*Parentage.*—There were 323 decedents of native parentage and 708 of foreign; a proportion of 219 of foreign parentage to every 100 of native.

*Season.*—The largest number of deaths, 113, occurred in March; the next largest, 92, in January and February; the smallest, 91, in May.

The number in each quarter of the year was as follows:

First Quarter.....	297	Third Quarter.....	245
Second Quarter.....	251	Fourth Quarter.....	238
<hr/>		<hr/>	
First half.....	548	Second half.....	483
<hr/>			
Whole year.....		1031	

*Ages.*—During 1905, of the 1,031 decedents from tuberculous diseases, 268, or more than one-quarter, were between the ages of 20 and 30; and 234, or more than one-fifth, were between the ages of 30 and 40.

In order to show more concisely the relation of age to mortality from consumption, during 1905, the following age periods and numbers are presented:

\*Includes deaths from pulmonary tuberculosis, general tuberculosis, tuberculosis of glands of neck, tuberculosis of hip-joint, kidney, and shoulder-joint, tuberculous cystitis, tuberculous enteritis, tuberculous laryngitis, tuberculous meningitis, tuberculous peritonitis.



Under 10 years of age.....	160
Between 10 and 20 years.....	92
Between 20 and 30 years.....	268
Between 30 and 40 years.....	234
Between 40 and 50 years.....	134
Between 50 and 70 years.....	117
Over 70 years.....	26
Not stated.....	
<hr/>	
Total.....	1,031

The following Table shows the total deaths from all reported *known causes*, with the *number* and *parentage* of deaths from consumption, of the same in each of the large divisions of the State, and in the whole State, *in each of the last nineteen years*, and also the aggregate for a period of forty-five years, from 1861 to 1905, inclusive:

TUBERCULOUS DISEASES.

(CONSUMPTION.)

STATISTICS BY COUNTIES.

NUMBER AND PERCENTAGE.

FORTY-FIVE YEARS.

TABLE LXX.—TUBERCULOUS DISEASES (CONSUMPTION)—Number, Locality, and Percentage.

Locality.	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905.	Total, 45 years, 1861-1905.
<b>BRISTOL COUNTY.</b>																				
Total deaths, stated causes.....	217	251	208	253	239	232	227	200	256	220	230	212	249	296	239	249	276	264	294	8,900
Tuberculosis.....	20	28	20	31	17	29	18	10	29	27	13	29	24	30	25	27	27	19	26	996
Percentage.....	9.22	11.15	9.62	11.85	7.11	12.50	7.93	5.00	11.33	12.27	5.65	13.68	9.64	10.14	10.46	10.84	9.78	7.20	8.84	11.19
<b>KENT COUNTY.</b>																				
Total deaths, stated causes.....	343	408	454	470	500	598	572	574	521	578	535	513	572	706	598	545	370	591	566	16,490
Tuberculosis.....	34	55	45	38	47	51	55	46	54	59	55	54	70	46	55	43	45	79	86	2,145
Percentage.....	99.1	13.44	9.84	8.08	9.40	8.53	9.62	8.01	10.36	10.21	10.28	10.53	12.24	6.52	9.20	7.89	7.89	13.37	13.43	13.01
<b>NEWPORT COUNTY.</b>																				
Total deaths, stated causes.....	435	458	440	470	597	590	506	516	487	532	507	491	561	608	544	602	529	491	566	18,170
Tuberculosis.....	41	32	37	51	51	45	35	46	59	66	55	60	50	52	55	55	55	50	55	2,089
Percentage.....	9.19	7.00	8.41	10.85	8.51	7.63	6.92	8.91	12.11	12.41	10.85	12.32	8.91	8.55	10.11	9.14	10.40	10.18	9.72	11.50
<b>PROVIDENCE COUNTY.*</b>																				
Total deaths, stated causes.....	2,345	2,465	2,286	2,374	2,344	2,632	2,634	2,536	2,796	2,826	2,646	2,381	2,543	3,080	2,726	2,836	2,947	2,757	2,889	79,819
Tuberculosis.....	246	273	257	305	236	265	259	242	271	292	283	307	297	333	337	325	365	348	384	10,708
Percentage.....	10.49	11.07	11.24	12.84	10.00	10.07	9.83	9.54	9.33	10.33	10.70	12.89	13.25	10.81	12.36	11.46	12.39	12.63	13.29	13.42

TABLE LXX.—TUBERCULOUS DISEASES (CONSUMPTION).—Number, Locality, and Percentage.—Concluded.

LOCALITY.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	Total 45 years, 1861-1905.
<b>PROVIDENCE CITY.</b>																				
Total deaths, stated causes....	2,630	2,644	2,495	2,859	2,615	2,950	3,127	2,878	3,055	2,938	2,796	2,921	3,153	3,065	3,425	3,353	3,806	3,571	3,453	99,228
Tuberculosis.....	323	362	315	394	347	342	328	325	394	367	341	405	452	486	474	461	502	448	442	14,204
Percentage .....	12.23	13.66	12.55	12.69	13.19	11.59	10.49	11.29	12.90	12.49	12.20	13.86	14.34	13.26	13.84	13.75	12.99	12.55	12.80	14.31
<b>WASHINGTON COUNTY.</b>																				
Total deaths, stated causes....	351	308	337	316	307	366	306	401	368	381	371	367	358	435	392	311	408	391	407	12,974
Tuberculosis.....	46	50	53	33	27	42	27	36	32	35	30	31	39	40	44	23	27	37	38	1,804
Percentage .....	13.10	13.58	15.68	10.38	13.61	7.38	8.82	8.98	8.70	9.19	8.09	8.45	10.90	9.20	11.22	7.40	6.62	9.46	9.33	13.90
<b>WHOLE STATE.</b>																				
Total deaths, stated causes....	6,321	6,594	6,220	6,891	6,586	7,368	7,372	7,105	7,483	7,475	7,085	6,885	7,436	8,790	7,924	7,896	8,596	8,065	8,175	235,781
Tuberculosis.....	710	800	727	852	740	759	722	705	839	846	777	886	972	987	990	934	1,021	981	1,031	31,946
Percentage .....	11.19	12.13	11.61	12.29	11.18	10.30	9.79	9.92	11.21	11.32	10.97	12.87	13.07	11.23	12.49	11.83	11.88	12.16	12.61	13.55

\*Exclusive of Providence city.

TABLE LXXI.

*Mortality in the State from Tuberculous Diseases (Consumption), with the Percentage of the Whole Number of Deaths, from all Causes, and the Sex, Parentage, and Locality, in the Aggregate of Different Periods, 1866-1905.*

YEARS.	Total Deaths from Consumption.		SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
1866-1870.	2,718	17.66	1,244	1,474	1,567	1,151	122	231	219	891	1,051	204
1871-1875.	2,883	14.03	1,267	1,616	1,504	1,379	94	213	163	953	1,234	226
1876-1880.	3,271	14.66	1,435	1,836	1,473	1,798	104	194	188	1,048	1,498	239
1881-1885.	3,729	14.40	1,692	2,037	1,427	2,302	113	208	242	1,222	1,751	193
1886.....	826	14.12	382	444	308	518	23	43	57	276	368	59
1887.....	710	11.19	312	398	266	444	20	34	41	246	323	46
1888.....	800	12.13	391	409	284	516	28	55	32	273	362	50
1889.....	727	11.61	356	371	239	488	20	45	37	267	315	53
1890.....	852	12.29	422	430	280	572	31	38	51	305	394	33
1886-1890.	3,915	12.24	1,863	2,052	1,377	2,538	122	215	218	1,357	1,762	241
1891.....	740	11.18	380	360	248	492	17	47	51	236	347	42
1892.....	759	10.26	360	399	249	510	29	51	45	265	342	27
1893.....	722	9.72	364	358	230	492	18	55	35	259	328	27
1894.....	705	9.85	337	368	214	491	10	46	46	242	325	36
1895.....	839	11.13	392	447	284	555	29	54	59	271	394	32
1891-1895.	3,765	10.41	1,833	1,932	1,225	2,540	103	253	236	1,273	1,736	174
1896.....	846	11.27	409	437	273	573	27	59	66	292	367	35
1897.....	777	10.93	395	382	269	508	13	55	55	283	341	30
1898.....	886	12.83	460	426	272	614	29	54	60	307	405	31
1899.....	972	13.03	478	494	316	656	24	70	50	337	452	39
1900.....	987	11.19	514	473	324	663	30	46	52	333	486	40
1896-1900.	4,468	11.82	2,256	2,212	1,454	3,014	123	284	283	1,552	2,051	175
1901.....	990	12.43	524	466	299	691	25	55	55	337	474	44
1902.....	934	11.74	475	459	283	651	27	43	55	325	461	23
1903.....	1,021	11.81	543	478	319	702	27	45	55	365	502	27
1904.....	981	12.10	529	452	307	674	19	79	50	348	448	37
1905.....	1,031	12.55	551	480	323	708	26	86	55	384	442	38
1901-1905.	4,957	12.11	2,622	2,335	1,531	3,426	124	308	270	1,759	2,327	169
Total, 40 years	15,374	6.66	8,151	7,223	5,672	9,702	553	1,403	944	6,394	5,489	591

\*Exclusive of Providence city.

TUBERCULOUS DISEASES (CONSUMPTION). *Proportion of Deaths to Population.*

The proportion of deaths from tuberculosis to the *population* in the different localities of the State, during the last twenty years, may be seen in the following summaries:

*For five years, 1886 to 1890, inclusive.*

	Persons, One Death to every	In every 1,000 Of Population.
Bristol County.....	494.....or.....	2.09
Kent County.....	569.....or.....	1.85
Newport County.....	708.....or.....	1.48
Providence County*.....	598.....or.....	1.91
Providence City.....	356.....or.....	2.82
Washington County.....	497.....or.....	2.10
Whole State.....	420.....or.....	2.40

*For five years, 1891 to 1895, inclusive.*

	Persons, One Death to every	In every 1,000 Of Population.
Bristol County.....	671.....or.....	1.74
Kent County.....	577.....or.....	1.73
Newport County.....	647.....or.....	1.58
Providence County*.....	537.....or.....	1.91
Providence City.....	413.....or.....	2.57
Washington County.....	766.....or.....	1.34
Whole State.....	497.....or.....	2.02

*For five years, 1896 to 1900, inclusive.*

	Persons, One Death to every	In every 1,000 of Population.
Bristol County.....	538.....or.....	1.86
Kent County.....	564.....or.....	1.77
Newport County.....	562.....or.....	1.78
Providence County*.....	487.....or.....	2.05
Providence City.....	388.....or.....	2.58
Washington County.....	716.....or.....	1.39
Whole State.....	462.....or.....	2.17

\*Exclusive of Providence city.



*For five years, 1901 to 1905, inclusive.*

	Persons, One Death to every	In every 1,000 of Population.
Bristol County.....	589.....or.....	1.76
Kent County.....	558.....or.....	1.90
Newport County.....	637.....or.....	1.57
Providence County*.....	460.....or.....	2.17
Providence City.....	410.....or.....	2.45
Washington County.....	770.....or.....	1.38
Whole State.....	464.....or.....	2.16

1903.

	Persons, One Death to every	In every 1,000 of Population.
Bristol County.....	517.....or.....	1.93
Kent County.....	702.....or.....	1.42
Newport County.....	871.....or.....	1.15
Newport City.....	553.....or.....	1.81
Providence County Towns.....	406.....or.....	2.46
Central Falls.....	537.....or.....	1.86
Pawtucket.....	582.....or.....	1.72
Providence City.....	382.....or.....	2.62
Woonsocket.....	451.....or.....	2.22
Washington County.....	918.....or.....	1.09
Whole State.....	457.....or.....	2.19

1904.

	Persons, One Death to every	In every 1,000 of Population.
Bristol County.....	772.....or.....	1.30
Kent County.....	422.....or.....	2.37
Newport County.....	781.....or.....	1.28
Newport City.....	678.....or.....	1.47
Providence County Towns.....	432.....or.....	2.31
Central Falls.....	662.....or.....	1.51
Pawtucket.....	567.....or.....	1.76
Providence City.....	433.....or.....	2.31
Woonsocket.....	424.....or.....	2.19
Washington County.....	666.....or.....	1.50
Whole State.....	478.....or.....	2.09

## 1905.

	Persons, One Death to every	In every 1,000 of Population.
Bristol County.....	578.....or.....	1.73
Kent County.....	397.....or.....	2.52
Newport County.....	849.....or.....	1.18
Newport City.....	596.....or.....	1.68
Providence County.....	417.....or.....	2.40
Central Falls.....	442.....or.....	2.26
Pawtucket.....	499.....or.....	2.01
Providence City.....	449.....or.....	2.23
Woonsocket.....	424.....or.....	2.36
Washington County.....	651.....or.....	1.54
Whole State.....	466.....or.....	2.15

There was an increase of 50 in the mortality from tuberculous diseases, in 1905, as compared with the preceding year, in numbers, as well as in proportion to the population.

## CROUP.

There were 13 decedents from croup, in 1905, against 8 in 1904.

*Sex.*—Of the 13 decedents from croup, in 1905, there were 5 males and 8 females.

*Parentage.*—There were 5 decedents of native parentage, and 8 of foreign.

*Age.*—All but two of the decedents were under 5 years of age.

*Season.*—

First Quarter.....	3	Third Quarter.....	1
Second Quarter.....	2	Fourth Quarter.....	7
First half.....	5	Second half.....	8
Whole year.....			13

The following Table will exhibit various facts in relation to mortality from croup for forty years:

TABLE LXXII.

*Mortality in the State from Croup from 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
1866-1870.....	227	1.47	112	115	96	131	6	13	19	82	99	8
1871-1875.....	367	1.79	198	169	164	203	13	30	13	131	169	11
1876.....	102	2.61	50	52	42	60	1	6	.....	26	65	4
1877.....	95	2.23	48	47	34	61	4	3	1	47	40	.....
1878.....	93	2.20	45	48	43	50	14	3	7	25	39	5
1879.....	96	2.28	58	38	40	56	3	6	15	25	43	4
1880.....	66	1.45	32	34	27	39	3	3	4	20	30	6
1876-1880.....	452	2.03	233	219	186	266	25	21	27	143	217	19
1881.....	101	2.16	45	56	38	63	2	6	4	38	49	2
1882.....	77	1.60	41	36	32	45	1	2	6	33	32	3
1883.....	71	1.40	32	39	33	38	1	6	4	25	35	.....
1884.....	80	1.55	40	40	32	48	2	11	4	29	34	.....
1885.....	94	1.74	45	49	42	52	4	8	6	46	28	2
1881-1885.....	423	1.63	203	220	177	246	10	33	24	171	178	7
1886.....	90	1.53	45	45	39	51	2	18	12	24	32	2
1887.....	113	1.79	58	55	43	70	9	12	4	43	39	6
1888.....	79	1.19	43	36	34	45	4	2	7	34	27	5
1889.....	80	1.28	37	43	24	56	3	15	1	27	33	1
1890.....	83	1.19	53	30	28	55	2	14	2	32	31	2
1886-1890.....	445	1.39	236	209	168	277	20	61	26	160	162	16
1891.....	67	1.46	40	27	17	50	1	11	11	27	16	1
1892.....	89	1.20	52	37	44	45	1	10	21	21	33	3
1893.....	50	.67	29	21	13	37	4	11	3	25	7	.....
1894.....	32	.45	16	16	10	22	1	7	2	15	7	.....
1895.....	30	.40	14	16	9	21	.....	6	4	11	9	.....
1891-1895.....	268	.84	151	117	93	175	7	45	41	99	72	4
1896.....	24	.32	16	8	5	19	.....	4	.....	12	8	.....
1897.....	17	.24	11	6	4	13	.....	8	.....	5	4	.....
1898.....	9	.13	4	5	3	6	.....	2	.....	4	2	1
1899.....	11	.15	3	8	4	7	.....	.....	2	5	4	.....
1900.....	18	.20	9	9	6	12	.....	4	.....	4	9	1
1896-1900.....	79	.21	43	36	22	57	.....	18	2	30	27	2
1901.....	24	.30	11	13	7	17	1	8	.....	8	6	1
1902.....	18	.23	8	10	5	13	.....	2	1	11	4	.....
1903.....	8	.09	4	4	.....	8	.....	6	.....	2	.....	.....
1904.....	8	.10	4	4	2	6	.....	2	1	4	1	.....
1905.....	13	.16	5	8	5	8	.....	1	1	7	4	.....
1901-1905.....	71	.18	32	39	19	52	1	19	3	32	15	1
Total, 40 years....	2,332	1.01	1,208	1,124	925	1,407	82	240	155	848	939	68

\*Exclusive of Providence city

## DIARRHEA AND DYSENTERY.

There were 162 decedents from diarrhea and dysentery, in 1905. Of these, 103 were from diarrhea or enteritis (ages over 2 years), and the remainder, 59, from dysentery. This number represents 1.97 per cent. of all causes, and a proportion of .34 to every 1,000 of the population.

*Sex.*—Of the 162, 78 were males and 84 were females, or a proportion of 93 males to every 100 females.

*Parentage.*—There were, of the 162 decedents, 68 of native and 94 of foreign parentage, or a proportion of about 138 of foreign parentage to every 100 of native.

*Age.*—There were 63 of the decedents from diarrhea and dysentery under 5 years of age, and there were 75 over 50 years of age, leaving 24 for the 45 years between 5 and 50.

*Locality.*—Of the 162 decedents, 6 were in Bristol county; 12 in Kent county; 4 in Newport county; 133 in Providence county; and 7 in Washington county.

*Season.*—Ninety-three of the deaths from diarrhea and dysentery occurred during the months of July, August, and September.

The following Table will show the deaths from diarrhea and dysentery, with the percentage, sex, parentage, etc., for each of 40 years, beginning with 1866:

TABLE LXXIII.

*Mortality in the State from Diarrhea (Enteritis) and Dysentery, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.		SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1866-1870	677	4.40	353	324	323	354	26	46	89	215	254	47
1871-1875.....	580	2.60	317	263	305	275	27	46	23	183	289	12
1876.....	122	2.96	66	56	52	70	3	6	2	41	65	5
1877.....	142	3.19	64	78	73	69	8	6	9	54	55	10
1878.....	93	2.09	42	51	51	42	5	8	2	34	39	5
1879.....	97	2.17	48	49	47	50	9	6	10	27	42	3
1880.....	98	2.03	49	49	50	48	4	6	10	32	42	4
1876-1880.....	552	2.47	269	283	273	279	29	32	33	188	243	27
1881.....	119	2.37	56	63	54	65	2	4	3	47	57	6
1882.....	158	3.11	75	83	69	89	2	4	28	57	64	3
1883.....	182	3.45	86	96	88	94	7	7	16	74	75	3
1884.....	153	2.98	74	79	69	84	10	5	11	66	56	5
1885.....	120	2.23	61	59	51	69	7	6	6	62	35	4
1881-1885.....	732	2.89	352	380	331	401	28	26	64	306	287	21
1886.....	159	2.72	64	95	70	89	7	11	1	73	59	8
1887.....	199	3.11	107	92	70	129	6	16	4	92	72	9
1888.....	157	2.31	69	88	97	60	6	8	3	54	71	15
1889.....	159	2.54	73	86	67	92	1	12	17	71	50	8
1890.....	182	2.62	84	98	74	108	5	9	22	77	63	6
1886-1890.....	856	2.68	397	459	378	478	25	56	47	367	315	46
1891.....	143	2.16	69	74	51	92	4	15	13	48	58	5
1892.....	199	2.69	100	99	82	117	6	14	8	76	89	6
1893.....	159	2.14	79	80	56	103	5	14	7	60	66	7
1894.....	124	1.73	61	63	36	88	.....	8	4	59	43	10
1895.....	101	1.34	38	63	40	61	6	9	3	41	37	5
1891-1895.....	726	2.01	347	379	265	461	21	60	35	284	293	33
1896.....	89	1.18	49	40	40	49	2	5	8	39	28	7
1897.....	107	1.50	48	59	37	70	1	14	7	41	36	8
1898.....	98	1.42	53	45	33	65	2	14	5	32	40	5
1899.....	111	1.47	49	62	34	77	.....	9	11	55	32	4
1900.....	112	1.27	49	63	48	64	6	18	8	40	31	9
1896-1900.....	517	1.37	248	269	192	325	11	60	39	207	167	33
1901.....	96	1.20	43	53	35	61	8	10	2	25	49	2
1902.....	267	3.36	119	148	104	163	5	22	12	104	116	8
1903.....	235	2.72	113	122	89	146	5	13	5	94	108	10
1904.....	171	2.11	80	91	61	110	1	11	5	66	73	15
1905.....	162	1.97	78	84	68	94	6	12	4	67	66	7
1901-1905.....	931	2.27	433	498	357	574	25	68	28	356	412	42
Total, 40 years...	5,571	2.41	2,716	2,855	2,424	3,147	192	394	358	2,106	2,260	261

\* Exclusive of Providence city.

## DIPHTHERIA.

The number of deaths from diphtheria, in 1905, was 121, which was 18 less than in 1904.

This number represents 1.5 per cent. of all causes, or a proportion of .25 to every one thousand of the population.

*Sex.*—Of the 121 decedents, 65 were males and 56 were females.

*Parentage.*—There were 45 of native and 76 of foreign parentage, or a proportion of about 169 of foreign parentage to every 100 of native.

*Season.*—There were 33 deaths from diphtheria in the first quarter, 23 in the second quarter, 23 in the third quarter, and 42 in the fourth quarter.

*Age.*—There were 76 deaths under 5 years of age, 29 between 5 and 10, 7 between 10 and 15, 2 between 15 and 20, and 7 above 20 years of age.

*Locality.*—Of the 121 decedents, 100 were in Providence county, 5 in Bristol county, 10 in Kent county, 4 in Newport county, and 2 in Washington county.

The following Table shows the mortality in the State from diphtheria for forty years, beginning with 1866, also the percentage of deaths, the sex, parentage, etc.:



TABLE LXXIV.

*Mortality in the State from Diphtheria, 1866 to 1905.*

YEARS.	Whole number of Deaths, all causes.	Number of Deaths from Diphtheria.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.						
				Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.	
1866-1870...	15,391	181	1.18	83	98	103	78	5	28	30	40	44	34	
1871-1875...	20,540	242	1.18	118	124	154	88	4	35	20	54	105	24	
1876.....	4,116	159	3.86	77	82	69	90	1	2	9	29	111	7	
1877.....	4,450	492	11.56	239	253	233	259	12	44	2	122	295	17	
1878.....	4,441	435	9.80	224	211	201	234	21	29	23	106	245	11	
1879.....	4,472	259	5.79	121	138	143	116	7	19	20	95	106	12	
1880.....	4,829	152	3.40	73	79	75	77	3	6	2	63	61	17	
1876-1880...	22,308	1,497	6.71	734	763	721	776	44	100	56	415	818	64	
1881.....	5,016	216	4.63	106	110	118	98	10	16	8	53	116	13	
1882.....	5,074	101	1.99	48	53	55	46	....	3	4	29	48	17	
1883.....	5,282	95	1.88	39	56	45	50	1	7	3	26	54	4	
1884.....	5,141	119	2.31	65	54	47	72	8	1	9	39	58	4	
1885.....	5,389	99	1.83	47	52	48	51	5	5	6	39	37	7	
1881-1885...	25,902	630	2.43	305	325	313	317	24	32	30	186	313	45	
1886.....	5,849	228	3.90	98	130	101	127	20	21	23	64	98	2	
1887.....	6,340	287	4.53	135	152	101	186	15	11	4	114	108	35	
1888.....	6,594	191	2.86	87	104	79	112	13	3	9	58	98	10	
1889.....	6,259	184	2.93	80	104	89	95	3	10	11	56	97	7	
1890.....	6,934	211	3.04	112	99	93	118	1	9	16	86	94	5	
1886-1890...	31,976	1,101	3.44	512	589	463	638	52	54	63	378	495	59	
1891.....	6,620	102	1.50	52	50	48	54	2	7	6	40	47	....	
1892.....	7,396	89	1.20	48	41	44	45	1	1	8	23	39	17	
1893.....	7,440	157	2.11	75	82	57	100	1	11	13	67	65	....	
1894.....	7,160	133	1.86	74	59	61	72	....	3	8	72	47	3	
1895.....	7,535	340	4.51	166	174	145	195	3	7	6	221	94	9	
1891-1895...	36,151	821	2.24	415	406	355	466	7	29	41	423	292	29	
1896.....	7,504	283	3.77	149	134	120	163	5	19	6	109	140	4	
1897.....	7,110	231	3.25	120	111	84	147	3	19	8	111	86	4	
1898.....	6,905	93	1.35	51	42	34	59	....	12	5	32	40	4	
1899.....	7,458	86	1.15	35	51	31	55	1	10	4	28	40	3	
1900.....	8,823	190	2.15	106	84	76	114	5	22	15	83	53	12	
1896-1900...	37,800	883	2.34	461	422	345	538	14	82	38	363	359	27	
1901.....	7,966	177	2.22	92	85	67	110	2	13	10	66	84	2	
1902.....	7,955	148	1.86	64	84	55	93	4	9	12	52	69	2	
1903.....	8,642	189	2.19	96	93	73	116	5	12	16	68	82	6	
1904.....	8,107	139	1.71	72	67	62	77	5	7	....	35	87	5	
1905.....	8,212	121	1.47	65	56	45	76	5	10	4	33	67	2	
1901-1905...	40,882	774	1.89	389	385	302	472	21	51	42	254	389	17	
Total, 40 years...	230,950	6,129	2.65	3,017	3,112	2,756	3,373	171	411	320	2,113	2,815	299	

\*Exclusion of Providence city.

## FEVER, MALARIAL.

The number of deaths, during 1905, from diseases classed as malarial fever, was 10. The number in 1904 was 16; in 1903 was 29; in 1902 was 19; in 1901, 23; in 1900, 21; in 1899, 30; in 1898, 31; in 1897, 44; in 1896, 42; in 1895, 29; in 1894, 26; in 1893, 20; in 1892, 36; in 1891, 31; in 1890, 42; in 1889, 40; in 1888, 71; in 1887, 85; in 1886, 44; in 1885, 30; 1884, 25.

*Sex.*—Of the 10 decedents from malarial fevers, in 1905, 6 were males and 4 were females.

*Parentage.*—There were, of the 10 decedents from malarial diseases, 4 of native parentage and 6 of foreign.

*Season.*—The deaths from malarial diseases occurred in the different seasons of the year as follows:

First Quarter.....	1	Third Quarter.....	5
Second Quarter.....	2	Fourth Quarter.....	2
—	—	—	—
First half.....	3	Second half.....	7
Whole year.....	10		

*Age.*—The number of decedents in the different periods of life was as follows:

Under 5 years of age.....	1
From 5 to 20 years of age.....	1
From 20 to 40 years of age.....	1
From 40 to 60 years of age.....	5
60 and over.....	2
—	—
Total.....	10

*Locality.*—Of the deaths from malarial fever in 1905, 1 occurred in Bristol county, 1 in Kent county, and 8 in Providence county.

## FEVER, TYPHOID.

The following Table exhibits, for each of the last forty years, the number and the percentage and the sex and parentage of the decedents from fevers returned as from typhoid, and the number in each division of the State:

## TABLE LXXV.

*Mortality in the State from Typhoid Fever, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
1866-1870.....	641	4.2	314	327	398	243	35	39	77	243	184	63
1871-1875.....	740	3.5	350	390	419	321	12	43	34	263	299	89
1876.....	126	3.0	65	61	71	55	5	9	13	44	33	22
1877.....	134	3.0	63	71	65	69	8	10	8	52	44	12
1878.....	150	3.4	68	82	77	73	13	13	6	59	47	12
1879.....	114	2.7	47	67	63	51	4	13	6	44	40	7
1880.....	158	3.4	74	84	94	64	8	12	5	66	52	15
1876-1880.....	682	3.1	317	365	370	312	38	57	38	265	216	68
1881.....	143	2.8	74	69	74	69	4	13	14	58	41	13
1882.....	229	4.7	111	118	100	129	6	11	5	56	145	6
1883.....	258	4.8	146	112	117	141	9	16	10	82	134	7
1884.....	165	3.2	83	82	78	87	7	7	12	66	64	9
1885.....	158	2.9	71	87	70	88	6	14	8	69	53	8
1881-1885.....	953	3.7	485	468	439	514	32	61	49	331	437	43
1886.....	169	2.9	78	91	76	93	6	8	11	66	70	8
1887.....	127	2.0	67	60	58	69	2	14	9	49	38	15
1888.....	235	3.6	125	110	88	147	20	24	14	66	102	9
1889.....	143	2.3	85	58	56	87	2	17	9	46	60	9
1890.....	107	1.5	58	49	39	68	7	8	5	37	43	7
1886-1890.....	781	2.5	413	368	317	464	37	71	48	264	313	48
1891.....	149	2.2	86	63	56	93	5	8	17	46	63	10
1892.....	133	1.8	75	58	55	78	5	12	9	49	51	7
1893.....	115	1.6	65	50	41	74	4	7	5	40	52	7
1894.....	159	2.2	93	66	46	113	5	13	13	56	70	2
1895.....	125	1.7	73	52	55	70	3	7	11	52	48	4
1891-1895.....	681	1.9	392	289	253	428	22	47	55	243	284	30
1896.....	113	1.5	66	47	44	69	6	8	9	39	43	8
1897.....	66	0.9	43	23	33	33	4	4	4	25	23	6
1898.....	76	1.1	49	27	23	53	2	3	11	20	39	1
1899.....	90	1.2	53	37	41	49	3	6	9	24	42	6
1900.....	127	1.4	70	57	51	76	4	6	23	43	39	12
1896-1900.....	472	1.2	281	191	192	280	19	27	56	151	186	33
1901.....	103	1.3	62	41	34	69	7	5	11	28	46	6
1902.....	91	1.1	52	39	29	62	2	5	12	30	38	4
1903.....	86	1.0	47	39	27	59	2	11	5	21	39	8
1904.....	74	0.9	49	25	29	45	5	6	4	24	29	6
1905.....	84	1.0	48	36	37	47	.....	1	8	28	39	8
1901-1905.....	438	1.1	258	180	156	282	16	28	40	131	191	32
Total, 40 years...	5,388	2.3	2,810	2,578	2,544	2,844	211	373	397	1,891	2,110	406

\*Exclusive of Providence city.

During 1905, of the 84 decedents from typhoid fever, there were 48 males and 36 females.

During the period of forty years, 1866 to 1905, inclusive, the proportions of the sexes of the decedents from typhoid fever in the State were 92 females to every 100 males.

*Parentage.*—There were 37 decedents from enteric fever, of native parentage, in 1905, and 47 of foreign parentage.

First Quarter.....	13	Third Quarter.....	34
Second Quarter.....	8	Fourth Quarter.....	29
	—		—
First half.....	21	Second half.....	63
Whole year.....		84	

The following Table shows the number of decedents from typhoid fever, in each division of ages, in each of the last forty years, in the State of Rhode Island:

## TABLE LXXVI.

*Mortality from Typhoid Fever in Age Periods.*

YEARS.	PERIODS OF LIFE.										Not stated.
	Under 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 and over.	
1866.....	23	10	21	26	21	16	9	14	10	.....	.....
1867.....	17	6	23	33	12	11	8	4	2	2	1
1868.....	10	7	10	21	8	8	10	5	5	.....	.....
1869.....	10	8	14	28	9	7	9	8	6	2	.....
1870.....	26	13	31	46	19	25	8	8	8	2	1
1871.....	13	10	20	28	18	16	9	4	5	2	.....
1872.....	17	18	34	54	20	9	12	11	3	1	.....
1873.....	27	12	34	31	25	13	13	7	8	2	.....
1874.....	10	14	26	32	9	5	10	3	6	2	.....
1875.....	23	14	19	43	18	10	10	6	4	.....	.....
1876.....	21	10	15	24	14	9	6	16	6	3	2
1877.....	22	13	18	36	20	8	5	7	2	2	1
1878.....	17	16	27	47	13	11	12	2	3	2	.....
1879.....	19	7	14	26	15	6	3	12	8	3	1
1880.....	25	12	24	43	23	12	10	5	3	.....	1
1881.....	25	9	19	29	14	11	9	12	11	4	.....
1882.....	24	22	44	69	27	14	9	10	9	1	.....
1883.....	36	25	46	75	31	12	11	10	8	2	2
1884.....	24	13	19	47	22	9	12	10	5	3	1
1885.....	35	12	16	25	26	11	11	12	6	4	.....
1886.....	29	9	25	41	20	14	17	8	5	1	.....
1887.....	24	8	16	31	16	10	5	8	4	4	1
1888.....	27	27	42	75	29	16	12	3	4	.....	.....
1889.....	18	12	29	41	18	8	9	5	3	.....	.....
1890.....	13	11	13	35	14	5	6	6	4	.....	.....
1891.....	12	10	25	50	26	10	7	6	2	.....	1
1892.....	10	11	18	42	20	15	10	6	1	.....	.....
1893.....	6	7	16	43	15	10	10	6	2	.....	.....
1894.....	18	8	31	57	21	12	8	3	2	.....	1
1895.....	10	9	10	56	15	7	9	5	4	.....	.....
1896.....	10	3	18	35	13	16	6	7	5	.....	.....
1897.....	6	4	7	22	11	9	3	3	1	.....	.....
1898.....	8	5	8	23	21	9	1	1	.....	.....	.....
1899.....	17	15	5	19	17	10	2	1	2	1	1
1900.....	13	9	17	44	23	12	6	2	1	.....	.....
1901.....	8	4	12	25	29	16	5	3	1	.....	.....
1902.....	6	4	9	31	19	11	3	4	3	.....	1
1903.....	13	7	7	23	27	2	5	2	.....	.....	.....
1904.....	10	2	12	20	10	9	3	4	3	1	.....
1905.....	19	5	8	27	10	3	6	1	3	2	.....
Total, 40 years	701	421	802	1,503	738	427	317	250	168	46	15





## DISEASES OF THE HEART.

The number of decedents from the various forms of diseases of the heart, as reported in 1905, was 731. The number is larger by 8 than that of 1904.

This number represents 8.9 per cent. of all causes, and a proportion of 1.52 to every 1,000 of the population.

*Sex.*—There were 362 male and 369 female decedents; a proportion of about 98 males to every 100 females.

*Parentage.*—Of the 731 decedents from diseases of the heart, in 1905, there were 329 of native parentage and 402 of foreign, a proportion of about 82 of native parentage to every 100 of foreign. Until recently it has been the invariable rule of the whole period of registration that the native population is more subject to heart disease than the foreign.

The following Table exhibits, for each of the last forty years, 1866 to 1905, inclusive, the number and parentage, and the sex and parentage, of the decedents from diseases of the heart, and the number of the same, in each division of the State:

## TABLE LXXVIII.

*Mortality from Diseases of the Heart, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
1866-1870.....	590	3.83	308	282	395	195	22	48	48	184	262	26
1871-1875.....	922	4.49	458	464	595	327	21	46	82	248	465	60
1876.....	166	4.03	86	80	109	57	9	11	10	38	86	12
1877.....	182	4.09	94	88	110	72	3	7	9	57	93	13
1878.....	166	3.73	88	78	109	57	5	11	15	38	83	14
1879.....	202	4.78	114	88	127	75	8	20	16	38	111	9
1880.....	231	5.03	125	106	146	85	9	2	29	59	104	9
1876-1880.....	947	4.25	507	440	601	346	34	70	79	230	477	57
1881.....	264	5.65	131	133	154	110	9	21	24	73	121	16
1882.....	255	5.31	116	139	162	93	8	16	23	55	142	11
1883.....	325	6.20	167	158	179	146	8	27	30	70	172	18
1884.....	285	5.60	135	150	163	122	6	16	25	87	139	12
1885.....	349	6.48	162	187	198	151	13	27	25	94	159	31
1881-1885.....	1,478	5.71	711	767	856	622	44	107	127	379	733	88
1886.....	330	5.20	152	178	184	146	12	20	18	82	168	30
1887.....	406	6.40	205	201	240	166	7	21	36	123	193	26
1888.....	436	6.56	196	240	240	196	11	22	40	122	210	31
1889.....	460	7.35	233	227	258	202	19	31	39	143	199	29
1890.....	405	5.84	222	183	219	186	15	49	27	114	172	28
1886-1890.....	2,037	6.37	1,008	1,029	1,141	896	64	143	160	584	942	144
1891.....	480	7.25	248	232	244	236	21	37	38	137	210	37
1892.....	506	6.84	260	246	252	254	22	47	48	163	200	26
1893.....	535	7.19	264	271	264	271	20	43	30	174	238	30
1894.....	476	6.65	251	225	246	230	16	32	41	161	192	34
1895.....	535	7.10	260	275	275	260	14	41	54	180	210	36
1891-1895.....	2,532	7.01	1,283	1,249	1,281	1,251	93	200	211	815	1,050	163
1896.....	556	7.41	294	262	266	290	19	40	38	189	231	30
1897.....	570	8.02	305	265	295	275	9	38	42	200	230	51
1898.....	549	7.95	295	254	284	267	17	42	44	171	237	38
1899.....	648	8.68	314	334	334	314	20	56	72	190	267	43
1900.....	701	7.95	319	382	319	382	22	49	57	241	284	48
1896-1900.....	3,024	8.00	1,527	1,497	1,496	1,528	87	225	253	991	1,249	219
1901.....	685	8.60	341	344	303	382	20	46	60	245	273	41
1902.....	704	8.85	363	341	323	381	25	48	59	241	281	50
1903.....	726	8.40	375	351	313	413	26	41	46	239	325	49
1904.....	723	8.92	349	374	342	381	23	49	65	231	308	47
1905.....	731	8.90	362	369	329	402	29	44	60	262	295	41
1901-1905.....	3,569	8.73	1,790	1,779	1,610	1,959	123	228	290	1,218	1,482	228
Total, 40 years..	15,099	6.54	7,592	7,507	7,975	7,124	488	1,067	1,250	4,649	6,660	985

\* Exclusive of Providence city.

*Sex.*—Of the 15,099 persons deceased from diseases of the heart, in the last forty years, 7,592 were males and 7,507 were females; or 101 males to each 100 females.

*Parentage.*—Of the 15,099 decedents, during forty years, 7,975 were of native parentage and 7,124 of foreign. The proportions would, therefore, stand as follows: To every 100 of foreign parentage there were 111 of native; or about 53 native and 47 of foreign parentage in every 100 deaths. In 1905 there were 73 more deaths of foreign than of native parentage.

Diseases of the heart rank third in the order of causes in 1905.

The following Table shows the number of decedents from diseases of the heart, in each divisional period of life, in each of the last forty years:

TABLE LXXIX.

*Mortality in the State from Diseases of the Heart, in Age Periods.*

YEARS.	PERIODS OF LIFE.								
	Under 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 and over.	Not stated.
1866.....	18	8	14	17	10	23	21	4	.....
1867.....	11	11	10	13	22	16	27	4	.....
1868.....	15	5	13	11	14	28	25	5	.....
1869.....	21	4	14	18	20	22	21	7	1
1870.....	19	6	11	13	20	21	23	3	1
1871.....	9	12	10	19	23	36	28	6	1
1872.....	27	12	22	19	31	36	29	13	.....
1873.....	19	11	28	18	25	35	42	9	2
1874.....	20	16	26	21	27	50	40	12	2
1875.....	14	16	25	20	32	29	41	9	.....
1876.....	14	10	15	19	20	38	39	10	1
1877.....	15	11	20	18	27	45	33	13	.....
1878.....	16	8	18	16	26	36	35	11	.....
1879.....	19	9	13	25	33	51	36	16	.....
1880.....	15	10	18	23	38	49	49	28	1
1881.....	32	13	26	33	37	49	53	21	.....
1882.....	22	17	24	25	36	51	61	17	2
1883.....	39	13	21	33	52	65	76	26	.....
1884.....	15	25	21	32	45	61	50	32	4
1885.....	38	13	24	42	61	69	78	24	.....
1886.....	39	18	28	38	52	68	69	18	.....
1887.....	52	30	23	35	61	79	87	39	.....
1888.....	39	25	30	54	84	97	74	33	.....
1889.....	45	25	37	45	69	85	118	35	1
1890.....	34	15	24	53	69	78	96	36	.....
1891.....	40	18	45	41	85	109	101	38	3
1892.....	54	21	32	59	93	111	104	31	3
1893.....	55	27	48	68	81	116	97	42	1
1894.....	40	28	36	64	69	102	102	35	.....
1895.....	33	20	44	57	82	137	111	51	.....
1896.....	40	33	46	65	98	106	117	50	1
1897.....	40	34	43	68	74	145	117	49	.....
1898.....	34	22	31	57	91	134	130	50	.....
1899.....	23	28	37	77	111	153	169	48	2
1900.....	47	32	49	61	130	164	164	52	2
1901.....	40	40	55	65	124	152	139	68	2
1902.....	25	37	51	77	127	161	144	79	3
1903.....	30	31	34	73	138	188	156	75	1
1904.....	48	29	51	63	124	179	151	78	.....
1905.....	43	27	57	75	123	169	175	62	.....
Total, 40 years....	1,199	770	1,174	1,630	2,484	3,343	3,228	1,239	32

The results of forty years of registration, with record of ages of decedents from diseases of the heart, show, in periods of twenty years each of life, the following percentages:

Under 20 years of age.....	7.9 per cent.
Between 20 and 40.....	12.9 per cent.
Between 40 and 60.....	27.3 per cent.
Between 60 and 80.....	43.5 per cent.
Over 80.....	8.2 per cent.
Unstated.....	0.2 per cent.
Total.....	100.0 per cent.

It will be seen that 43.5 per cent. of all the deaths from diseases of the heart were of persons over sixty years of age and under eighty.

Diseases of the heart have acquired large importance as a cause of death. From 38.7 in every 1,000 deaths from all causes, in 1866, heart diseases have gradually increased to 89.0 in every 1,000 in 1905.

#### HERNIA.

There were 19 deaths from hernia in 1905; 4 were males and 15 were females, and operations were performed in 13 instances. Of the 19, 2 were of native and 17 of foreign parentage.

#### INFLUENZA.

The event, during the first four months of the year 1890, of a very extraordinary and perhaps unprecedented prevalence of a form of influenza, which was unlike that of ordinary occurrence in that it affected indiscriminately all the functions and nearly all the organs of the body, varying with the individuals attacked, and the reappearance of the same, although in greatly lessened numbers, in 1891, warrants a continued notice not given previous to 1890 in the Registration Reports to the affection so named.

The disease was, in 1890, mostly largely confined to the respiratory passages, and resulted in a largely increased mortality from bronchitis and consumption. During 1891 the disease was equally as severe, affecting in a larger measure the brain and other nerve centres, and the direct mortality was even larger than that of 1890. The prevalence was largest during the second quarter of the year, and again in December.

The increase in December of 1891 was followed by a sudden augmentation in the first four months of the following year, 1892, the greatest number of deaths, 198, occurring in January of 1892. The total for 1892 was 336, or about twice as much as for either of the previous years. In 1893 there were 84 deaths reported as re-

sulting from influenza. This was 251 less than in 1892. In 1894 there were 166 deaths from influenza reported, an increase of 95 per cent. from 1893, and a decrease of over 50 per cent. from 1892. From influenza there were 115 deaths in 1895, in 1896 there were but 42 deaths, in 1897 there were 153 deaths, in 1898 there were 75 deaths, in 1899 there were 219 deaths, in 1900 there were 255 deaths, in 1901 there were 146 deaths, in 1902 there were but 37 deaths, in 1903 there were 142 deaths, in 1904 but 77 deaths, and in 1905 there were 107 deaths.

*Sex.*—Of the 107 deaths from influenza, in 1905, 35 were males and 72 were females.

*Parentage.* The parent nativity of the decedents was 54 of native and 53 of foreign.

*Season.*—Of the 107 deaths from influenza, during 1905, 88 occurred in the first quarter of the year, 14 in the second, 1 in the third quarter, and 4 in the fourth quarter.

*Age.*—There were 11 under 5 years of age, 1 from 5 to 20 years, 8 from 20 to 40, 20 from 40 to 60, 47 from 60 to 80, 20 from 80 years of age and over.

The following Tables will show the proportionate nativity, sex, and locality of the disease, for the past sixteen years.

The greatest mortality appears to be among females, there being 153 females to every 100 males. The parentage appears to be nearly equally divided between native and foreign, there being 103 foreign to 100 native.

The largest number of deaths occurred in Providence city, but this is not out of proportion to the proportionate number and density of population.

Referring to the age periods, it will be seen that the greatest mortality occurred in the period from 70 to 80, there being 503, or 21.9 per cent. of the whole number of deaths from this disease. Taking the three decennials including 60 to 90, we have 1,212 deaths, or 52.7 per cent. of all by ages.

By season, the greatest number of deaths, 667 occurred in January; the next in number, 408, in February; followed by 370 in March, 338 in April, and 218 in December.



*Mortality in the State from Influenza, 1890 to 1905, inclusive.*

YEARS.	Number of Deaths.		SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
		Per cent.	Males.	Females.	Native.	Foreign.	Bristol County.	Kent. County.	Newport County.	Providence County.*	Providence City.	Washington County.*
1890.....	168	2.42	72	96	68	100	6	14	12	61	70	5
1891.....	177	2.67	67	110	91	86	7	14	14	60	69	13
1892.....	366	4.54	142	194	170	166	11	27	13	115	144	26
1893.....	85	1.14	34	51	47	38	7	3	5	33	32	5
1894.....	166	2.32	62	104	88	78	6	9	15	48	75	13
1895.....	115	1.53	48	67	63	52	3	10	9	42	41	10
1896.....	42	.56	15	27	16	26	2	1	2	30	6	1
1897.....	153	2.15	52	101	72	81	3	6	3	72	64	5
1898.....	75	1.09	29	46	40	35	8	3	5	30	26	3
1899.....	219	2.94	82	137	104	115	9	6	14	94	80	16
1900.....	255	2.89	108	147	120	135	8	14	16	112	98	7
1901.....	146	1.83	55	91	79	67	8	6	3	52	67	10
1902.....	37	.47	17	20	17	20	3	2	1	18	12	1
1903.....	142	1.65	61	81	68	74	9	6	1	51	65	10
1904.....	77	.95	29	48	36	41	2	4	1	39	27	4
1905.....	107	1.30	35	72	54	53	6	3	4	53	36	5
1890-1905.....	2,300	1.49	908	1,392	1,133	1,167	98	128	118	910	912	134

*Influenza by Age Periods, 1890 to 1905.*

YEARS.	Under 1.	1 to 5.	5 to 10.	10 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 and over.	Not stated.
1890.....	14	18	4	8	14	22	18	17	19	17	11	5	1
1891.....	11	12	...	8	14	6	14	21	29	42	19	1	...
1892.....	26	20	2	6	13	19	23	33	74	74	41	3	...
1893.....	7	5	4	3	6	1	7	4	13	16	16	2	1
1894.....	6	14	2	5	11	6	20	12	32	37	17	4	...
1895.....	14	10	1	5	8	6	9	10	16	24	9	3	...
1896.....	1	3	2	1	1	2	2	4	13	6	6	1	...
1897.....	11	1	2	5	2	10	10	22	22	38	25	5	...
1898.....	12	4	1	1	4	6	5	8	7	13	8	6	...
1899.....	27	15	3	4	11	13	13	26	24	53	23	7	...
1900.....	9	7	1	2	14	9	13	25	56	65	54	...	...
1901.....	14	2	3	2	4	9	6	18	29	35	24	...	...
1902.....	9	1	...	1	...	1	1	3	5	9	5	2	...
1903.....	14	10	2	3	6	7	12	10	21	30	27	...	...
1904.....	1	4	3	3	6	4	6	4	17	18	11	...	...
1905.....	8	3	...	1	4	4	10	10	21	26	15	5	...
1890-1905.....	184	129	30	58	118	125	171	227	398	503	311	44	2
Per cent. of all ages for 16 yrs., 1890-1905.	8.0	5.7	1.3	2.5	5.1	5.4	7.4	9.9	17.3	21.9	13.5	1.9	0.1

*Influenza by Months, 1890 to 1905, inclusive.*

YEARS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1890.....	108	27	11	8	4	2	2	.....	1	3	1	1	168
1891.....	4	3	1	22	19	19	2	2	2	4	1	98	177
1892.....	198	52	31	27	9	6	.....	2	3	2	1	5	336
1893.....	5	1	2	19	12	4	1	2	1	1	1	36	85
1894.....	102	27	10	9	7	3	2	1	1	.....	1	3	166
1895.....	12	20	43	16	7	6	5	.....	.....	.....	2	4	115
1896.....	9	4	5	7	5	4	1	2	2	1	.....	2	42
1897.....	26	67	29	11	4	3	.....	.....	2	2	3	6	153
1898.....	7	2	15	13	9	5	2	.....	1	.....	1	20	75
1899.....	93	59	27	16	7	1	.....	3	1	2	2	8	219
1900.....	5	16	53	134	26	8	.....	3	.....	1	4	5	255
1901.....	38	48	27	13	9	3	.....	.....	1	.....	3	4	146
1902.....	4	3	11	8	3	1	.....	.....	.....	.....	1	6	37
1903.....	9	33	61	18	7	2	.....	.....	1	.....	4	7	142
1904.....	17	12	20	6	7	2	.....	.....	.....	1	1	11	77
1905.....	30	34	24	11	2	1	1	.....	.....	.....	2	2	107
1890-1905.	667	408	370	338	137	70	16	15	16	17	28	218	2,300

## INSANITY.

There were 58 deaths from insanity in 1905, an increase of 3 from 1904. The percentage to the whole number of deaths was .71.

*Sex.*—There were 29 male and 29 female decedents.

*Parentage.*—The number of native decedents from insanity was 31, and of foreign, 27.

Of the 58 deaths in 1905, there were 21 from dementia, including 3 from parietic dementia; 13 from insanity, including 11 from delusional insanity; 12 from general paralysis; 4 from acute mania; 1 from chronic mania; and 7 from melancholia.

Of the 18 deaths from dementia, a secondary cause of acute nephritis was given in 1 case and of chronic nephritis in 7 cases; diabetes in 1 case; erysipelas of arm, 1; lobar pneumonia, 1; pulmonary

tuberculosis, 5; and no secondary cause was given in 2 cases. Of the 3 deaths from paretic dementia, locomotor ataxia was given in 1 case and no secondary cause given in 2 cases.

Of the 13 deaths from insanity, in 5 cases the secondary cause given was chronic nephritis; in 1, phlegmonous erysipelas; 1, pneumonia; 3, pulmonary tuberculosis; and 3 with no second cause given.

Of the 5 deaths from acute and chronic mania, the secondary cause given in 1 case was chronic nephritis and in 1 suppurative otitis media; 3 cases where no other cause was given.

Of the 7 deaths from melancholia, nephritis was given as a second cause in 4 cases; acute diarrhea in 1 case, and in 2 cases no second cause was given.

There were 12 deaths from general paralysis of the insane. No second cause was given in 11 cases, in 1 case a secondary cause of organic disease of spinal cord was given.

The following Table shows the mortality in the State from insanity for forty years, with percentage to deaths from all causes, sex, parentage, etc., from 1866 to 1905, inclusive:

TABLE LXXX.

*Mortality in the State from Insanity, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1866-1870	72	.47	33	39	52	20	.....	5	4	7	55	1
1871-1875.....	106	.52	55	51	76	30	3	2	8	33	58	2
1876.....	12	.28	5	7	9	3	1	2	1	1	6	1
1877.....	19	.49	9	10	9	10	.....	1	.....	5	12	1
1878.....	22	.50	5	17	16	6	.....	.....	1	3	17	1
1879.....	17	.40	11	6	10	7	.....	.....	.....	5	11	1
1880.....	19	.39	9	10	13	6	.....	1	2	6	9	1
1876-1880.....	89	.39	39	50	57	32	1	4	4	20	55	5
1881.....	32	.63	15	17	22	10	1	1	3	10	16	1
1882.....	23	.45	9	14	18	5	.....	1	.....	8	12	2
1883.....	29	.55	12	17	17	12	1	2	.....	7	18	1
1884.....	36	.69	17	19	24	12	2	3	.....	21	9	1
1885.....	35	.67	16	19	18	17	.....	.....	2	23	10	.....
1881-1885.....	155	.59	69	86	99	56	4	7	5	69	65	5
1886.....	49	.83	21	28	28	21	3	1	1	37	7	.....
1887.....	64	1.01	35	29	33	31	1	.....	1	56	.....	6
1888.....	43	.64	21	22	24	19	1	2	.....	33	7	.....
1889.....	22	.35	14	8	12	10	.....	.....	.....	14	8	.....
1890.....	30	.44	19	11	16	14	1	1	1	13	14	.....
1886-1890.....	208	.65	110	98	113	95	6	4	3	153	36	6
1891.....	21	.32	10	11	16	5	.....	1	.....	5	13	2
1892.....	27	.37	17	10	15	12	3	1	.....	8	14	1
1893.....	39	.53	14	25	13	26	.....	.....	.....	30	9	.....
1894.....	49	.68	20	29	22	27	1	1	.....	27	18	2
1895.....	72	.96	36	36	44	28	3	.....	1	41	27	.....
1891-1895.....	208	.57	97	111	110	98	7	3	1	111	81	5
1896.....	53	.70	28	25	22	31	.....	2	.....	40	11	.....
1897.....	103	1.45	53	50	51	52	.....	3	4	78	12	6
1898.....	82	1.19	41	41	37	45	3	.....	2	60	10	7
1899.....	66	.88	37	29	33	33	3	2	1	55	5	.....
1900.....	54	.61	29	25	33	21	1	1	2	45	5	.....
1896-1900.....	358	.95	188	170	176	182	7	8	9	278	43	13
1901.....	33	.41	18	15	10	23	.....	.....	.....	26	7	.....
1902.....	17	.21	10	7	9	8	3	5	.....	6	3	.....
1903.....	77	.89	35	42	37	40	.....	2	.....	72	2	1
1904.....	55	.68	30	25	23	32	.....	2	1	48	4	.....
1905.....	58	.71	29	29	31	27	.....	.....	2	54	2	.....
1901-1905.....	240	.58	122	118	110	130	3	9	3	206	18	1
Total, 40 years...	1,436	.62	713	723	793	643	31	42	63	858	404	38

## DISEASES OF THE KIDNEYS.

There were 622 deaths returned, during 1905, with diseases of the kindeys assigned as the cause.

This number represents 7.6 per cent. of all causes, and a proportion of 1.30 to every 1,000 of the population.

*Sex.*—Of the 622 there were 323 males and 299 females.

*Parentage.*—There were 276 of native parentage and 346 of foreign, or about 80 of native to every 100 of foreign.

*Age.*—Of the 622 decedents from kidney diseases, 13 were under five years of age, 19 from five to twenty, 106 from twenty to forty, 206 from forty to sixty, 237 from sixty to eighty, and 41, eighty and over.

Diseases of the kidneys have largely increased in number and much more largely in proportion, during the last forty years.

During the ten years from 1866 to 1875, inclusive, the proportion of deaths from kidney diseases, to whole number of deaths from all causes, was but little more than one per cent., while during the ten years from 1896 to 1905, inclusive, the proportion was six and five-tenths per cent.

The following Table will present various facts in relation to the mortality from diseases of the kidneys in Rhode Island, for forty years, 1866-1905.

## TABLE LXXXI.

*Mortality in the State from Kidney Diseases, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1866-1870	135	.88	94	41	91	44	6	7	25	23	66	8
1871-1875.....	295	1.44	167	128	187	108	11	11	17	67	172	17
1876.....	50	1.28	22	28	32	18	1	1	7	10	28	3
1877.....	67	1.57	40	27	35	32	2	1	.....	14	49	1
1878.....	80	1.89	50	30	49	31	4	3	3	21	47	2
1879.....	79	1.88	51	28	44	35	1	3	1	23	43	8
1880.....	91	2.02	52	39	51	40	1	5	10	27	46	2
1876-1880.....	367	1.65	215	152	211	156	9	13	21	95	213	16
1881.....	79	1.69	40	39	47	32	7	5	4	14	48	1
1882.....	86	1.79	50	36	45	41	2	5	10	15	52	2
1883.....	129	2.43	92	57	74	55	5	2	17	37	60	8
1884.....	118	2.29	53	65	66	52	5	11	12	28	54	8
1885.....	159	2.97	92	67	86	93	8	10	17	31	88	5
1881-1885.....	571	2.20	307	264	318	253	27	33	60	125	302	24
1886.....	155	2.49	85	70	93	62	3	10	22	37	71	12
1887.....	169	2.66	92	77	90	79	5	6	16	34	92	7
1888.....	213	3.23	102	111	122	91	10	10	24	46	115	8
1889.....	210	3.38	119	91	122	88	14	13	15	62	96	10
1890.....	229	3.20	116	113	109	120	15	8	21	59	116	10
1886-1890.....	976	3.05	514	462	536	440	47	47	98	247	490	47
1891.....	245	3.06	123	122	122	123	9	12	25	72	114	13
1892.....	258	3.49	135	123	127	133	9	11	24	70	128	16
1893.....	302	4.06	154	148	141	161	19	15	25	81	147	15
1894.....	313	4.37	152	161	164	149	22	20	33	84	136	18
1895.....	341	4.54	176	165	171	170	23	19	29	96	163	11
1891-1895.....	1,459	3.90	740	720	725	734	82	77	136	403	688	73
1896.....	395	5.26	209	186	188	207	19	39	34	125	160	18
1897.....	387	5.44	198	189	185	201	24	19	30	129	164	21
1898.....	471	6.82	228	243	207	264	19	23	25	153	219	32
1899.....	477	6.40	241	236	215	282	23	30	33	148	223	20
1900.....	516	5.85	240	276	275	241	16	19	25	186	236	34
1896-1900.....	2,246	5.94	1,116	1,130	1,070	1,176	101	130	147	741	1,002	125
1901.....	505	6.34	266	239	224	281	20	33	33	167	231	21
1902.....	535	6.73	290	245	230	305	27	29	26	194	243	16
1903.....	617	7.14	347	270	271	346	24	39	39	199	287	29
1904.....	618	7.62	302	316	249	369	26	32	27	214	285	34
1905.....	622	7.57	323	299	276	346	20	45	46	183	286	42
1901-1905.....	2,897	7.08	1,528	1,369	1,250	1,647	117	178	171	957	1,332	142
Total, 40 years...	8,946	3.87	4,681	4,265	4,388	4,558	400	496	675	2,658	4,265	452

\*Exclusive of Providence city.



## DISEASES OF THE LIVER.

There were 113 deaths reported, in 1905, as having been caused by structural diseases of the liver, as against 97 in 1904.

This number represents 1.38 per cent. of all causes, and a proportion of .24 to every 1,000 of the population.

Of the 113 decedents, there were 64 males and 49 females.

There were 35 of native parentage and 78 of foreign.

Ninety-four of the whole number were of persons of 40 years of age and over.

In the age period of from 5 to 40 there were but 19 decedents from diseases of the liver.

The mortality from such diseases does not depend to any marked extent upon the influence of season.

Table LXXXII will present various facts relating to diseases of the liver during forty years.

## TABLE LXXXII.

*Mortality from Diseases of the Liver, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
1866-1870.....	201	1.31	113	88	118	83	12	14	36	47	70	22
1871-1875.....	202	.98	91	111	119	83	18	14	12	56	88	14
1876.....	45	1.09	26	19	27	18	1	5	5	11	18	5
1877.....	52	1.17	23	29	31	21	1	.....	7	16	24	4
1878.....	49	1.10	25	24	32	17	8	1	6	14	18	2
1879.....	52	1.24	27	25	31	21	4	4	2	14	22	6
1880.....	58	1.27	29	29	40	18	4	3	8	15	25	3
1876-1880.....	256	1.15	130	126	161	95	18	13	28	70	107	20
1881.....	46	.92	30	16	21	25	2	2	6	8	24	4
1882.....	62	1.22	34	28	36	26	3	5	10	17	24	3
1883.....	51	.94	27	24	20	31	5	6	4	16	18	2
1884.....	48	.93	22	26	23	25	5	3	5	2	31	2
1885.....	61	1.13	24	37	32	29	2	6	6	21	24	2
1881-1885.....	268	1.03	137	131	132	136	17	22	31	64	121	13
1886.....	54	.92	29	25	26	28	4	4	4	14	28	.....
1887.....	86	1.35	40	46	38	48	3	5	3	31	39	5
1888.....	68	1.03	38	30	36	32	1	5	6	28	26	2
1889.....	70	1.12	30	40	31	39	1	2	10	26	29	2
1890.....	65	.94	42	23	29	36	3	4	6	21	26	5
1886-1890.....	343	1.07	179	164	160	183	12	20	29	120	148	14
1891.....	81	1.23	41	40	28	53	3	4	9	26	38	1
1892.....	89	1.20	39	50	34	55	3	5	4	27	45	5
1893.....	72	.97	43	29	30	42	4	8	6	15	36	3
1894.....	93	1.30	43	50	42	51	2	9	9	42	24	7
1895.....	81	1.07	43	38	28	53	.....	6	10	27	31	7
1891-1895.....	416	1.15	209	207	162	254	12	32	38	137	174	23
1896.....	110	1.47	56	54	37	73	3	7	6	40	48	6
1897.....	58	.82	31	27	22	36	4	3	6	15	25	5
1898.....	91	1.32	41	50	31	60	3	7	6	26	41	8
1899.....	92	1.23	48	44	22	70	5	6	15	25	35	6
1900.....	100	1.13	56	44	36	64	.....	10	7	29	47	7
1896-1900.....	451	1.19	232	219	148	303	15	33	40	135	196	32
1901.....	100	1.26	54	46	31	69	3	8	7	31	46	5
1902.....	112	1.41	54	58	54	58	2	3	7	41	50	9
1903.....	120	1.39	79	41	37	83	2	8	11	33	56	10
1904.....	97	1.20	55	42	39	58	3	6	12	27	43	6
1905.....	113	1.38	64	49	35	78	3	10	6	34	58	2
1901-1905.....	542	1.33	306	236	196	346	13	35	43	166	253	32
Total, 40 years...	2,679	1.16	1,397	1,282	1,196	1,483	117	183	257	795	1,157	170

## DROPSY.

During the last seven years, including 1905, there have been no deaths from dropsy, so called, all cases so reported having been ascertained to have been the result of some definite cause, and placed in that division.

This table is not now in use, but is here inserted that the changes and advance in perfection of diagnosis may be demonstrated.

TABLE LXXXIII.

*Mortality from Kidney and Liver Diseases Compared with Dropsy (so returned),  
for forty years, 1866 to 1905.*

YEARS.	DEATHS FROM KIDNEY DISEASES.			DEATHS FROM LIVER DISEASES.			TOTAL DEATHS FROM KIDNEY AND LIVER DISEASES.			DEATHS FROM DROPSY.			Diminution of Dropsy in reference to Kidney and Liver Diseases.	Percentage of Dropsy to all.
	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.		
1866-1870.....	135	94	41	201	113	88	336	207	129	302	143	159	-34	1.96
1871-1875.....	295	167	128	202	91	111	497	258	239	294	130	164	-203	1.43
1876.....	50	22	28	45	26	19	95	48	47	70	35	35	-25	1.70
1877.....	67	40	27	52	23	29	119	63	56	64	25	39	-55	1.44
1878.....	80	50	30	49	25	24	129	75	54	44	23	21	-85	.99
1879.....	79	51	28	52	27	25	131	78	53	54	28	26	-77	1.21
1880.....	91	52	39	58	29	29	149	81	68	46	22	24	-103	.95
1876-1880.....	367	215	152	256	130	126	623	345	278	278	133	145	-345	1.25
1881.....	79	40	39	46	30	16	125	70	55	48	23	25	-77	.96
1882.....	86	50	36	62	34	28	148	84	64	52	23	29	-96	1.02
1883.....	129	72	57	51	27	24	180	99	81	47	21	26	-133	.89
1884.....	118	53	65	48	22	26	166	75	91	40	20	20	-126	.78
1885.....	159	92	67	61	24	37	220	116	104	44	30	14	-176	.82
1881-1885.....	571	307	264	268	137	131	839	444	395	231	117	114	-608	.89
1886.....	155	85	70	54	29	25	209	114	95	45	18	27	-164	.77
1887.....	169	92	77	86	40	46	255	132	123	35	14	21	-220	.55
1888.....	213	102	111	68	38	30	281	140	141	47	18	29	-234	.71
1889.....	210	119	91	70	30	40	280	149	131	42	14	28	-238	.67
1890.....	229	116	113	65	42	23	294	158	136	44	18	26	-250	.63
1886-1890.....	976	514	462	343	179	164	1,319	693	626	213	82	131	-1,106	.67
1891.....	245	123	122	81	41	40	326	164	162	35	8	27	-291	.52
1892.....	258	135	123	89	39	50	347	174	173	39	17	22	-308	.53
1893.....	302	154	148	72	43	29	374	197	177	39	11	28	-335	.52
1894.....	313	152	161	93	43	50	406	195	211	7	3	4	-399	.10
1895.....	341	176	165	81	43	38	422	219	203	4	1	3	-418	.05
1891-1895.....	1,459	740	719	416	209	207	1,875	949	926	124	40	84	-1,751	.34
1896.....	395	209	186	110	56	54	505	265	240	2	1	1	-503	.03
1897.....	387	198	189	58	31	27	445	229	216	2	1	1	-443	.03
1898.....	471	228	243	91	41	50	562	269	293	3	1	2	-559	.04
1899.....	477	241	236	92	48	44	569	289	280	.....	.....	.....	-569	.....
1900.....	516	240	276	100	56	44	616	296	320	.....	.....	.....	-616	.....
1896-1900.....	2,246	1,116	1,130	451	232	219	2,697	1,348	1,349	7	3	4	-2,690	.02
1901.....	505	266	239	100	54	46	605	320	285	.....	.....	.....	-605	.....
1902.....	535	290	245	112	54	58	647	344	303	.....	.....	.....	-647	.....
1903.....	617	347	270	120	79	41	737	426	311	.....	.....	.....	-737	.....
1904.....	618	302	316	97	55	42	715	357	358	.....	.....	.....	-715	.....
1905.....	622	323	299	113	64	49	735	387	348	.....	.....	.....	-735	.....
1901-1905.....	2,897	1,528	1,369	542	306	236	3,439	1,834	1,605	.....	.....	.....	-3,439	.....
Total, 40 years..	8,946	4,681	4,265	2,679	1,397	1,282	11,625	6,078	5,547	1,449	648	801	-10,176	.62

## MEASLES.

There were 44 decedents from measles as a cause of death in 1905, as against 15 in 1904.

This number represents .54 per cent. of all causes.

Of the 44, there were 18 males and 26 females.

Of parentage there were 9 of native and 35 of foreign.

During the last ten years the proportion of mortality from measles has been about 51 of native to every 100 of foreign parentage.

During 1905 the number of decedents under 5 year of age was 40.

The number in the different divisions of the State may be found in Table LXXXIV.

TABLE LXXXIV.

*Mortality in the State from Measles, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1866-1870	92	.60	44	48	26	66	6	4	12	35	25	....
5 years, 1871-1875	102	.50	43	59	53	49	5	12	7	39	35	4
1876.....	4	.10	....	4	1	3	....	....	....	4	....	....
1877.....	11	.25	3	8	2	9	....	....	1	8	2	....
1878.....	81	1.82	39	42	25	56	2	3	....	26	50	....
1879.....	....	....	....	....	....	....	....	....	....	....	....	....
1880.....	9	.20	3	6	2	7	....	....	....	6	3	....
1876-1880.....	105	.47	45	60	30	75	2	3	1	44	55	....
1881.....	37	.74	17	20	15	22	....	1	2	9	25	....
1882.....	6	.12	1	5	....	6	....	....	....	2	4	....
1883.....	14	.27	11	3	9	5	....	1	....	3	8	2
1884.....	18	.35	10	8	5	13	1	6	1	3	7	....
1885.....	45	.84	27	18	19	26	....	7	2	27	8	1
1881-1885.....	120	.46	66	54	48	72	1	15	5	44	52	3
1886.....	18	.30	11	7	4	14	....	5	....	4	9	....
1887.....	132	2.08	69	63	57	75	....	5	8	26	90	3
1888.....	11	.22	5	6	3	8	....	2	....	7	2	....
1889.....	29	.47	15	14	10	19	....	8	....	7	14	....
1890.....	92	1.32	45	47	42	50	2	10	....	41	31	8
1886-1890.....	282	.88	145	137	116	166	2	30	8	85	146	11
1891.....	12	.18	7	5	4	8	1	2	2	3	3	1
1892.....	28	.38	14	14	10	18	....	2	4	11	11	....
1893.....	100	1.34	56	44	33	67	....	11	....	22	64	3
1894.....	9	.12	4	5	3	6	....	....	2	2	5	....
1895.....	53	.70	24	29	11	42	....	5	....	8	40	....
1891-1895.....	202	.54	105	97	61	141	1	20	8	46	123	4
1896.....	58	.77	28	30	22	36	....	6	3	28	19	2
1897.....	33	.46	21	12	11	22	5	1	1	8	18	....
1898.....	18	.26	11	7	3	15	....	....	1	12	4	1
1899.....	47	.63	22	25	12	35	....	5	....	13	27	2
1900.....	185	2.10	87	98	79	106	4	25	....	48	99	9
1896-1900.....	341	.90	169	172	127	214	9	37	5	109	167	14
1901.....	15	.19	10	5	3	12	....	1	....	10	3	1
1902.....	25	.31	17	8	5	20	1	....	1	16	7	....
1903.....	133	1.54	68	65	41	92	2	15	1	17	93	5
1904.....	15	.19	7	8	8	7	1	1	....	4	6	3
1905.....	44	.54	18	26	9	35	3	2	3	30	6	....
1901-1905.....	232	.55	120	112	66	166	7	19	5	77	115	9
Total, 40 years...	1,476	.64	737	739	527	949	33	140	51	479	728	45

\*Exclusive of Providence city.



## OLD AGE.

The number of deaths, in 1905, attributed to old age as a cause, was 188. This is 8 less than in 1904.

This number represents 2.29 per cent. of all causes, and a proportion of .39 to every 1,000 of the population.

Of the 188 decedents from old age, 74 were males and 114 were females, or about 65 males to every 100 females.

Of the parentage of the 188, there were 107 of native and 81 of foreign.

The following Table will present the statistics of deaths in Rhode Island from old age for forty years:

TABLE LXXXV.

*Mortality in the State from Old Age, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1866-1870	998	6.48	366	362	764	284	55	102	157	233	267	134
1871-1875.....	1,158	5.64	467	691	833	325	61	103	161	332	348	153
1876.....	241	6.18	107	134	177	64	12	14	38	65	71	41
1877.....	213	5.00	96	117	145	68	12	23	29	57	63	29
1878.....	222	5.25	84	138	172	50	15	8	32	76	61	30
1879.....	220	5.22	82	138	152	68	14	19	26	69	67	25
1880.....	273	5.95	121	152	186	87	12	20	34	90	73	44
1876-1880.....	1,169	5.24	490	679	832	337	65	84	159	357	335	169
1881.....	247	5.29	101	146	167	80	12	24	36	93	72	10
1882.....	283	5.89	110	173	190	93	20	25	40	106	79	13
1883.....	275	5.22	105	170	184	91	17	18	44	91	84	21
1884.....	293	5.68	101	192	196	97	16	20	39	106	86	26
1885.....	267	4.95	86	181	183	84	9	32	47	87	70	22
1881-1885.....	1,365	5.27	503	862	920	445	74	119	206	483	391	92
1886.....	276	4.69	101	175	181	95	16	24	36	100	73	27
1887.....	278	4.38	103	175	167	111	17	19	29	109	76	28
1888.....	290	4.35	108	182	198	92	16	26	25	124	64	35
1889.....	227	3.63	75	152	136	91	10	23	23	73	71	27
1890.....	198	2.87	72	126	123	75	16	19	19	59	63	22
1886-1890.....	1,269	3.97	459	810	805	464	75	111	132	465	347	139
1891.....	185	2.80	83	102	121	64	18	16	26	65	41	19
1892.....	256	3.46	95	161	168	88	9	24	29	91	71	32
1893.....	183	2.44	72	111	113	70	8	16	19	33	92	15
1894.....	187	2.61	60	127	109	78	12	21	23	64	51	16
1895.....	197	2.61	82	115	105	92	17	17	16	87	51	9
1891-1895.....	1,008	2.78	392	616	616	392	64	94	113	340	306	91
1896.....	206	2.74	84	122	112	94	8	23	13	89	57	16
1897.....	159	2.24	51	108	96	63	7	9	6	69	57	11
1898.....	205	2.97	86	119	135	70	9	11	30	79	56	20
1899.....	228	3.06	85	143	148	80	10	16	37	71	72	22
1900.....	250	2.83	96	154	150	100	15	34	42	72	65	22
1896-1900.....	1,048	2.77	402	646	641	407	49	93	128	380	307	91
1901.....	234	2.94	83	151	147	87	13	18	33	72	76	22
1902.....	261	3.28	100	161	148	113	9	25	42	94	78	13
1903.....	231	2.67	98	133	131	100	14	21	36	92	51	17
1904.....	196	2.41	82	114	121	75	11	18	30	79	44	14
1905.....	188	2.29	74	114	107	81	9	20	26	70	48	15
1901-1905.....	1,110	2.72	437	673	654	456	56	102	167	407	297	81
Total, 40 years...	9,125	3.95	3,516	5,609	6,065	3,060	499	808	1,223	3,047	2,598	950

## PERITONITIS.

There were 17 deaths which were caused by idiopathic peritonitis during 1905.

This number represents .21 per cent. of all causes, and a proportion of .04 to every 1,000 of the population.

*Sex.*—Of the 17 decedents from peritonitis, there were 8 males and 9 females.

*Parentage.*—There were 5 of native parentage and 12 of foreign.

## PNEUMONIA.

There were 996 decedents from pneumonia in 1905. The number is larger by 98 than that of 1904.

This number represents 12.1 per cent. of all causes, and a proportion of 2.1 to every 1,000 of the population.

*Sex.*—Of the 996 deaths from pneumonia, 509 were males and 487 were females, or about 96 females to every 100 males.

*Parentage.*—By parentage, there were 356 of native and 640 of foreign. The proportion of decedents from pneumonia was about 56 of native to each 100 of foreign parentage.

*Season.*—There were 584, or 59 per cent., of the deaths that occurred during the first four months of the year. The largest mortality, by months, was 176 in March, 156 in February, 155 in January, and 97 in April.

Pneumonia, as a cause of death, has increased in the ratio to whole number of deaths, during the last forty years, from an average of 6.3 per cent. during the first ten years to an average of 9.8 per cent. during the last ten, including 1905.

The following Table presents, for each of the last forty years, the number and the percentage, with the sex and the parentage, of the decedents from pneumonia, and the number in each year, in each division of the State:

## TABLE LXXXVI.

*Mortality in the State from Pneumonia, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1886-1870	928	6.0	467	461	556	372	43	56	66	287	407	69
1871-1875.....	1,331	6.5	667	664	783	584	54	71	62	385	662	97
1876.....	339	8.2	164	175	162	177	13	23	16	97	163	27
1877.....	226	5.1	104	122	127	99	10	7	14	81	98	16
1878.....	317	7.1	143	174	176	141	10	11	18	110	140	28
1879.....	311	7.4	148	163	163	148	7	15	15	103	156	15
1880.....	364	7.9	180	184	177	187	26	16	18	92	192	20
1876-1880.....	1,557	7.0	739	818	805	752	66	72	81	483	749	106
1881.....	327	6.5	177	150	190	137	10	23	17	81	174	22
1882.....	314	7.2	178	166	163	181	10	22	24	61	176	21
1883.....	400	7.8	192	208	198	202	19	21	34	108	204	14
1884.....	363	7.1	167	196	192	171	10	13	17	125	172	26
1885.....	465	8.6	214	251	271	194	15	20	33	151	227	19
1881-1885.....	1,899	7.3	928	971	1,014	885	64	99	125	556	953	102
1886.....	481	8.2	232	249	234	247	17	29	37	161	209	28
1887.....	488	7.7	260	228	227	261	13	27	39	142	227	40
1888.....	508	7.7	274	234	227	281	16	37	29	171	219	36
1889.....	483	7.7	255	228	213	270	18	37	29	169	208	22
1890.....	569	8.2	288	281	247	322	16	36	30	206	246	35
1886-1890.....	2,529	7.9	1,309	1,220	1,148	1,381	80	166	164	849	1,109	161
1891.....	568	8.5	270	298	247	321	17	40	70	183	232	26
1892.....	655	8.8	335	320	265	390	18	57	52	216	277	35
1893.....	776	10.4	412	364	319	457	18	42	49	232	392	43
1894.....	665	9.3	344	321	305	360	18	47	46	224	276	54
1895.....	685	9.1	340	345	289	398	28	49	25	243	292	48
1891-1895.....	3,349	9.2	1,701	1,648	1,425	1,924	99	235	242	1,098	1,469	206
1896.....	669	8.9	366	303	274	395	23	45	39	263	256	43
1897.....	635	8.9	337	298	268	367	25	33	36	254	251	36
1898.....	542	7.8	299	243	218	324	8	39	41	198	241	15
1899.....	686	9.2	357	329	317	369	12	66	62	204	314	28
1900.....	966	10.9	479	487	373	593	25	90	43	323	451	34
1896-1900.....	3,498	9.3	1,838	1,660	1,450	2,048	93	273	221	1,242	1,513	156
1901.....	742	9.3	400	342	324	418	24	69	46	262	293	48
1902.....	715	9.0	378	337	279	436	23	45	45	248	324	30
1903.....	870	10.1	425	445	301	569	19	45	47	303	414	42
1904.....	898	11.1	457	441	345	553	34	67	42	309	408	38
1905.....	996	12.1	509	487	356	640	30	52	56	363	428	67
1901-1905.....	4,221	10.3	2,169	2,052	1,605	2,616	130	278	236	1,485	1,867	225
Total, 40 years...	19,312	8.4	9,818	9,494	8,786	10,526	629	1,250	1,197	6,385	8,729	1,122

\*Exclusive of Providence city.

## LXXXVII.

*Exhibiting the Number of Decedents from Pneumonia, in Each of the Several Periods of Life, during Each of the last Forty Years, from 1866 to 1905, inclusive.*

YEARS.	PERIODS OF LIFE.										
	Under 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 and over. Not stated.
1866.....	57	4	4	5	12	10	14	21	25	32	9 .....
1867.....	57	9	2	3	10	11	13	16	25	13	12 1
1868.....	70	4	3	3	15	8	16	18	19	27	13 .....
1869.....	64	11	1	2	11	12	9	28	25	16	11 .....
1870.....	84	6	5	4	6	7	8	14	20	19	8 1
1871.....	71	7	2	7	10	17	16	16	35	17	19 1
1872.....	83	5	1	7	17	20	19	22	24	19	11 1
1873.....	105	4	8	3	10	14	16	17	24	23	10 .....
1874.....	76	9	4	6	17	17	25	21	40	27	8 .....
1875.....	120	9	3	8	22	30	35	39	61	43	28 2
1876.....	116	5	4	3	20	20	32	35	48	39	17 .....
1877.....	79	2	.....	7	15	15	24	27	22	24	9 2
1878.....	115	9	4	10	14	17	28	20	42	45	13 .....
1879.....	102	8	1	3	14	27	26	35	38	38	19 .....
1880.....	95	18	3	16	14	33	37	46	47	43	12 .....
1881.....	102	4	2	5	15	22	26	45	48	31	26 1
1882.....	71	3	4	14	22	36	49	33	41	46	21 4
1883.....	88	15	2	13	32	33	40	53	49	46	27 2
1884.....	103	14	5	11	23	34	24	32	53	37	23 4
1885.....	121	9	10	8	23	29	50	49	76	59	29 2
1886.....	111	10	7	19	32	35	50	58	74	55	30 .....
1887.....	132	15	7	7	32	43	51	56	64	53	28 .....
1888.....	103	20	5	15	49	48	61	62	70	54	21 .....
1889.....	120	14	3	20	27	36	51	57	77	47	31 .....
1890.....	161	7	10	12	46	55	55	55	79	54	33 2
1891.....	126	10	4	11	42	54	60	70	84	70	37 .....
1892.....	139	10	9	10	39	69	75	74	110	71	44 5
1893.....	176	25	8	17	49	68	96	115	102	70	50 .....
1894.....	169	19	9	18	47	56	67	72	78	77	52 1
1895.....	172	16	9	20	49	56	77	66	94	77	49 .....
1896.....	220	20	7	17	33	55	56	71	83	66	40 1
1897.....	194	14	10	17	33	46	58	58	73	75	57 .....
1898.....	202	11	4	9	23	39	40	58	66	54	36 .....
1899.....	238	14	6	19	38	53	50	62	78	74	53 1
1900.....	338	24	7	21	53	77	86	105	109	90	54 2
1901.....	185	20	5	21	49	57	91	94	93	77	49 1
1902.....	285	16	8	20	35	42	51	67	75	84	31 1
1903.....	338	25	5	15	41	72	70	77	99	84	43 3
1904.....	356	10	9	24	42	52	76	93	89	74	52 1
1905.....	344	24	8	17	40	87	103	106	117	88	62 .....
Total, 40 years....	5,888	477	208	467	1,121	1,512	1,831	2,058	2,476	2,058	1,177 39

*Age.*—Of the decedents from pneumonia, during the period of forty years, 31 per cent. were under five years of age. Of over fifty years of age the number of decedents was 40 per cent. of the whole number. The following summary will present the percentages for 1905 in round numbers:

Under five years of age.....	34 per cent.
Five years and under twenty, and not stated.....	5 per cent.
Twenty years and under fifty .....	13 per cent.
Fifty years and over.....	48 per cent.

### SCARLET FEVER.

The number of deaths returned as having been caused by scarlet fever, in 1905, was 35. The number is 26 less than that of 1904.

This number represents .4 per cent. of all causes, and a proportion of .07 to every 1,000 of the population.

*Sex.*—Of the 35 decedents from scarlet fever, 15 were males and 20 were females.

*Parentage.*—There were 15 of native parentage and 20 of foreign.

The following Table will present the statistics of scarlet fever for the last fifty years, from 1856 to 1905, inclusive, the number and percentage and sex of the decedents from scarlet fever, and the number from scarlet fever in each division of the State. It also shows, from 1866 to 1905, inclusive, the parentage of the decedents from scarlet fever:



## TABLE LXXXVIII.

*Mortality in the State from Scarlet Fever, 1856 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
10 yrs., 1856-1865	1,440	5.2	700	740	†	†	57	79	191	414	634	65
1866-1870.....	496	3.2	231	265	210	286	26	32	27	142	236	33
1871-1875.....	1,053	5.1	503	550	513	540	40	53	51	302	584	73
1876.....	80	1.9	34	46	42	38	3	2	7	21	35	12
1877.....	62	1.4	26	36	29	33	14	4	3	21	12	8
1878.....	86	1.9	41	45	35	51	3	5	3	14	57	4
1879.....	311	7.4	164	147	130	181	3	6	4	37	255	6
1880.....	468	10.0	215	253	216	252	22	30	11	143	243	19
1876-1880.....	1,007	4.5	480	527	452	555	45	47	28	236	602	49
1881.....	138	3.0	79	59	62	76	11	25	12	41	45	4
1882.....	45	0.9	24	21	16	29	.....	3	16	7	18	1
1883.....	34	0.6	17	17	14	20	1	1	5	9	16	2
1884.....	94	1.8	39	55	41	56	.....	.....	8	28	57	4
1885.....	91	1.7	36	55	48	43	.....	3	6	24	38	2
1881-1885.....	405	1.6	195	210	181	224	12	32	47	109	174	31
1886.....	88	1.5	46	42	29	59	.....	13	2	41	30	2
1887.....	266	4.2	120	146	95	171	9	16	4	80	154	3
1888.....	207	3.1	101	106	91	116	1	29	10	87	80	.....
1889.....	51	0.8	24	27	14	37	3	2	6	14	25	1
1890.....	16	0.2	11	5	6	10	.....	3	.....	2	8	3
1886-1890.....	628	2.0	302	326	235	393	13	63	22	224	297	9
1891.....	33	0.5	17	16	12	21	1	3	.....	9	17	3
1892.....	67	0.9	38	29	21	46	1	4	4	20	38	.....
1893.....	193	2.6	86	107	75	118	1	23	3	68	97	1
1894.....	123	1.7	59	64	52	71	2	8	2	55	56	.....
1895.....	107	1.4	52	55	42	65	1	2	3	37	63	1
1891-1895.....	523	1.4	252	271	202	321	6	40	12	189	271	5
1896.....	53	0.7	30	23	24	29	.....	2	1	9	33	8
1897.....	29	0.4	15	14	13	16	1	1	4	10	12	1
1898.....	21	0.3	10	11	14	7	.....	1	1	13	4	2
1899.....	29	0.4	17	12	13	16	.....	3	.....	6	19	1
1900.....	34	0.3	24	10	22	12	.....	1	6	16	11	.....
1896-1900.....	166	0.4	96	70	86	80	1	8	12	54	79	12
1901.....	21	0.3	10	11	9	12	.....	2	2	8	9	.....
1902.....	30	0.4	16	14	10	20	.....	6	6	9	9	.....
1903.....	60	0.7	34	26	23	37	6	6	2	22	24	.....
1904.....	71	0.9	36	35	37	34	3	3	.....	20	43	2
1905.....	35	0.4	15	20	15	20	.....	5	1	8	19	2
1901-1906.....	217	0.5	111	106	94	123	9	22	11	67	104	4
50 years.....	5,935	2.9	2,870	3,065	1,973	2,522	209	376	401	1,737	2,931	281

\*Not including Providence city.

†Records incomplete.

## CROUP, DIPHTHERIA AND SCARLET FEVER.

*Season and Mortality.*

The following Table is continued, to show by comparison the influence of season in regard to the mortality from croup and scarlet fever for fifty-three years, and diphtheria for forty-eight years. The Table will give the average monthly and quarterly percentages of deaths from each cause:

## LXXXIX.

MONTHS.	CROUP. — 1853-1905.		DIPHTHERIA. — 1858-1905.		SCARLET FEVER. — 1853-1905.	
	Number of Deaths.	Per cent.	Number of Deaths.	Per cent.	Number of Deaths.	Per cent.
January.....	410	12.60	693	10.13	805	12.15
February.....	365	11.22	510	7.45	736	11.10
March.....	296	9.10	534	7.81	659	9.94
First Quarter...	1,071	32.92	1,737	25.39	2,200	33.19
April.....	242	7.44	470	6.87	585	8.83
May.....	172	5.29	466	6.81	609	9.19
June.....	144	4.42	397	5.81	520	7.84
Second Quarter.	558	17.15	1,333	19.49	1,714	25.86
July.....	110	3.38	382	5.59	377	5.69
August.....	91	2.80	400	5.85	313	4.72
September.....	188	5.78	503	7.35	324	4.89
Third Quarter..	389	11.96	1,285	18.79	1,014	15.30
October.....	341	10.48	822	12.02	451	6.81
November.....	452	13.90	875	12.79	545	8.22
December.....	442	13.59	788	11.52	704	10.62
Fourth Quarter	1,235	37.97	2,485	36.33	1,700	25.65
Totals.....	3,253	100.00	6,840	100.00	6,628	100.00

## SUICIDE.

The number of deaths by suicide, in Rhode Island, during 1905, was 55, which number is 8 less than in the preceding year.

There were 45 male and 10 female decedents from that cause.

Of the 55, 20 were of native parentage and 35 of foreign.

The means of self-destruction, according to the returns, were as follows:

By cutting artery in arm, 1; by cutting throat, 7; by drowning, 8; by hanging, 7; by illuminating gas, 4; by jumping from window, 1; by shooting, 16; by throwing self in front of electric car, 1; by bichloride of mercury, 1; by carbolic acid, 4; by cyanide potassium, 1; by "paris green," 3; by some unknown poison, 1.

TABLE XC.

*Mortality in the State from Suicide, 1886 to 1905, inclusive.*

YEARS.	Number of Deaths.		SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
		Per cent.	Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1866-1870	86	.56	67	19	66	20	2	7	6	31	34	6
1871-1875.....	89	.43	61	28	57	32	3	9	6	20	43	8
1876.....	18	.46	15	3	6	12	.....	.....	1	5	10	2
1877.....	22	.52	16	6	15	7	.....	2	1	5	12	2
1878.....	21	.50	16	5	12	9	3	2	.....	5	7	4
1879.....	13	.31	10	3	5	8	.....	.....	.....	5	7	1
1880.....	10	.20	5	5	8	2	.....	1	1	6	2	.....
1876-1880.....	84	.38	62	22	46	36	3	5	3	26	38	9
1881.....	23	.49	19	4	15	8	.....	5	3	.....	14	1
1882.....	31	.64	23	8	23	8	1	4	3	8	12	3
1883.....	25	.47	18	7	11	14	.....	.....	2	8	15	.....
1884.....	22	.43	20	2	13	9	.....	1	1	6	11	3
1885.....	20	.37	16	4	11	9	1	1	6	3	6	3
1881-1885.....	121	.47	96	25	73	48	2	11	15	25	58	10
1886.....	17	.29	16	1	12	5	1	3	2	4	7	.....
1887.....	16	.25	13	3	8	8	2	.....	2	5	7	.....
1888.....	21	.42	20	1	15	6	.....	1	3	6	9	2
1889.....	24	.38	20	4	9	15	.....	2	5	7	10	.....
1890.....	19	.28	15	4	12	7	2	.....	1	8	5	3
1886-1890.....	97	.30	84	13	56	41	5	6	13	30	38	5
1891.....	40	.61	27	13	15	25	2	2	.....	10	24	2
1892.....	19	.26	15	4	10	9	.....	.....	4	6	8	1
1893.....	21	.38	18	3	10	11	.....	2	.....	7	12	.....
1894.....	45	.63	36	9	24	21	1	3	5	14	19	3
1895.....	31	.41	22	9	13	18	3	2	5	5	13	3
1891-1895.....	156	.46	118	38	72	84	6	9	14	42	76	9
1896.....	38	.51	28	10	20	18	2	1	2	11	20	2
1897.....	41	.58	33	8	21	20	.....	4	5	11	18	3
1898.....	46	.67	38	8	20	26	.....	3	4	14	24	1
1899.....	41	.55	30	11	18	23	1	2	1	7	27	3
1900.....	55	.62	42	13	25	30	1	2	7	24	19	2
1896-1900.....	221	.58	171	50	104	117	4	12	19	67	108	11
1901.....	55	.69	46	9	24	31	3	8	2	26	15	1
1902.....	54	.68	41	13	26	28	4	3	8	14	20	5
1903.....	55	.64	43	12	22	33	1	2	6	22	22	2
1904.....	63	.78	41	22	19	44	.....	4	2	20	31	6
1905.....	55	.67	45	10	20	35	2	4	5	13	29	2
1901-1905.....	282	.69	216	66	111	171	10	21	23	95	117	16
Total, 40 years...	1,136	.50	875	261	585	551	35	80	99	336	512	74

\*Exclusive of Providence city.

## WHOOPIING COUGH.

The number of deaths from whooping cough, returned in 1905, was 50, as against 8 in 1904.

Of the 50 decedents from whooping cough, 26 were males and 24 were females.

There were 26 decedents of native parentage and 24 of foreign.

All of the decedents but 1 were under 5 years of age.

The following Table will present the mortality from whooping cough, for forty years, 1866-1905, inclusive, with the death rate, sex, parentage, etc., of the decedents:

TABLE XCI.

*Mortality in the State from Whooping Cough, 1866 to 1905, inclusive.*

YEARS.	Number of Deaths.	Per cent.	SEX.		PARENTAGE.		DIVISIONS OF THE STATE.					
			Males.	Females.	Native.	Foreign.	Bristol County.	Kent County.	Newport County.	Providence County.*	Providence City.	Washington County.
5 years, 1866-1870	153	.99	78	75	68	85	2	13	14	54	63	7
1871-1875.....	160	.78	65	95	64	96	4	11	13	56	73	3
1876.....	48	1.17	19	29	20	28	5	3	1	7	31	1
1877.....	32	.72	18	14	6	26	.....	.....	1	15	16	.....
1878.....	54	1.22	26	28	30	24	.....	1	.....	9	43	1
1879.....	43	.96	17	26	22	21	.....	11	1	12	15	4
1880.....	20	.41	10	10	7	13	.....	.....	2	6	11	1
1876-1880.....	197	.88	90	107	85	112	5	15	5	49	116	7
1881.....	68	1.36	33	35	30	38	.....	2	2	24	40	.....
1882.....	71	1.40	33	38	32	39	.....	4	.....	26	40	1
1883.....	9	.17	6	3	5	4	1	.....	.....	4	4	.....
1884.....	43	.83	17	26	23	20	5	.....	2	6	28	2
1885.....	42	.79	23	19	24	18	.....	1	4	9	24	4
1881-1885.....	233	.90	112	121	114	119	6	7	8	69	136	7
1886.....	49	.83	28	21	17	32	4	3	.....	18	23	1
1887.....	21	.32	9	12	10	11	.....	.....	4	6	10	1
1888.....	44	.75	17	27	16	28	.....	3	2	11	28	.....
1889.....	77	1.23	39	38	36	41	1	12	1	20	43	.....
1890.....	70	1.00	25	45	25	45	2	2	7	27	30	2
1886-1890.....	261	.82	118	143	104	157	7	20	14	82	134	4
1891.....	77	1.16	39	38	37	40	3	1	3	15	54	1
1892.....	25	.34	10	15	14	11	.....	1	3	12	9	.....
1893.....	23	.31	8	15	9	14	1	.....	4	9	7	2
1894.....	129	1.80	52	77	62	67	3	19	15	33	55	4
1895.....	45	.60	19	26	13	32	.....	8	2	7	27	1
1891-1905.....	299	.84	128	171	135	164	7	29	27	76	152	8
1896.....	59	.79	25	34	24	35	2	4	7	16	24	6
1897.....	56	.79	27	29	26	30	1	8	11	14	17	5
1898.....	96	1.39	37	59	50	46	5	2	4	24	57	4
1899.....	86	1.15	30	56	43	43	1	5	1	30	47	2
1900.....	86	.97	31	55	34	72	4	6	3	25	40	2
1896-1900.....	383	1.01	150	233	177	206	13	25	26	109	191	19
1901.....	17	.21	6	11	9	8	.....	1	1	2	13	.....
1902.....	85	1.07	28	57	41	44	2	6	16	28	30	3
1903.....	164	1.90	70	94	79	85	6	15	2	60	77	4
1904.....	8	.10	2	6	1	7	1	1	.....	4	2	.....
1905.....	50	.61	26	24	26	24	2	6	10	22	9	1
1901-1905.....	324	.78	132	192	156	168	11	29	29	116	131	8
Total, 40 years...	2,010	.87	873	1,137	903	1,107	55	149	136	611	996	63



TABLE NCL.

*Presenting the Ratio of Mortality to the Whole Number of Specified Causes of Death, of Twenty Prominent Causes for thirty years, 1876-1905.*

CAUSES OF DEATH.	YEARS.																													
	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
ACCIDENTS (all kinds) . . . . .	3.40	3.10	2.89	2.43	3.51	3.04	3.44	2.84	3.80	3.09	3.22	3.25	3.01	3.46	3.60	3.54	4.18	3.58	3.29	3.92	3.96	3.71	4.30	3.71	3.82	4.37	4.01	4.37	3.98	3.68
APoplexy AND PARALYSIS. . . . .	4.01	4.25	4.45	5.21	4.67	5.23	5.52	5.39	5.78	5.38	5.69	4.17	5.50	5.17	4.91	5.08	4.89	5.52	6.26	5.57	5.61	6.62	6.04	6.15	5.76	6.30	6.03	4.06	5.70	5.35
BRAIN, Dis. OF. . . . .	3.04	3.68	3.28	3.73	3.44	3.84	3.60	3.50	2.97	3.61	3.11	3.29	3.43	3.03	3.13	3.36	3.33	3.49	3.11	3.45	4.09	4.63	4.75	3.53	3.30	3.55	3.39	2.37	2.91	2.76
BRONCHITIS. . . . .	1.46	1.62	1.89	1.47	1.98	1.80	2.08	2.04	2.29	3.09	2.96	2.77	3.42	4.20	4.01	3.74	4.16	4.24	3.57	3.66	3.69	3.19	3.43	3.24	3.36	2.93	3.28	3.08	2.93	2.80
CANCER. . . . .	2.72	3.17	2.82	2.96	2.72	3.11	2.75	3.30	3.03	3.59	2.77	2.50	2.99	3.03	2.41	2.66	2.45	2.78	3.01	3.13	3.02	3.59	4.05	3.93	3.32	3.86	4.32	4.07	4.97	4.69
CHOLERA INFAN. . . . .	6.41	6.08	3.97	3.81	5.43	5.15	6.77	4.73	6.31	5.16	6.27	5.69	7.08	6.80	8.39	8.25	8.56	8.18	6.98	6.98	7.29	6.00	6.89	6.39	6.34	5.06	*7.74	*7.42	*7.41	*7.30
TyBERICUS Dis. (CONSUMPTION). . . . .	16.78	15.52	15.98	15.06	14.02	15.12	15.33	15.01	14.34	14.45	14.12	14.19	12.13	11.61	12.29	11.18	10.28	9.79	9.92	11.21	11.32	10.97	12.87	13.07	11.25	12.49	11.88	11.88	12.16	12.61
CROUP. . . . .	2.61	2.23	2.20	2.28	1.45	2.16	1.60	1.40	1.55	1.74	1.55	1.79	1.19	1.28	1.19	1.01	1.20	.68	.45	.40	.32	.24	.13	.15	.20	.30	.23	.09	.10	.16
DIARRHEA. . . . .	1.87	2.11	1.25	1.26	1.52	1.65	1.87	2.55	2.20	1.55	1.59	2.09	1.20	1.40	1.37	1.26	1.73	1.59	1.17	.80	.78	.88	.87	.90	.23	*1.84	*1.62	*1.24	*1.26	

\* Includes diarrhea and enteritis under 2 years.

† Includes enteritis over 2 years.

TABLE XCII.—Concluded.

CAUSES OF DEATH.	YEARS.																													
	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
DIPHTHERIA.....	4.07	11.56	10.28	6.14	3.40	4.03	2.10	1.88	2.31	1.83	3.90	4.53	2.86	2.93	3.04	1.54	1.20	2.13	1.87	4.54	3.79	3.26	1.35	1.16	2.16	2.23	1.87	2.20	1.72	1.48
DYSENTERY.....	1.28	1.22	.95	1.04	.61	.90	1.42	1.06	.78	.68	1.13	1.04	1.11	1.14	1.25	.89	.96	.57	.57	.55	.41	.63	.55	.59	.98	.95	1.53	1.12	.88	.72
FEVER, TYPHOID....	3.00	3.55	3.94	2.70	3.37	3.05	4.00	5.12	3.24	2.93	2.87	2.00	3.58	2.29	2.26	2.37	1.88	1.61	2.45	2.20	2.07	1.55	1.55	1.61	1.68	1.59	1.39	1.34	1.12	1.03
HEART, DIS. OF....	4.03	4.28	3.92	4.78	5.03	5.68	5.31	6.35	5.60	6.48	6.20	6.46	6.56	7.35	5.84	7.25	6.84	7.26	6.70	7.15	7.44	8.05	7.97	8.85	7.97	8.64	8.92	8.45	8.96	8.94
HYDROCEPHALUS....	1.74	1.29	1.65	1.36	1.01	1.20	1.02	.87	.81	.31	.41	.41	.47	.20	.37	.34	.30	.42	.17	.21	.23	.23	.20	.17	.22	.09	.19	.....	.....	.....
KIDNEYS, DIS. OF...	1.28	1.57	1.80	1.88	2.02	1.69	1.79	2.43	1.52	3.14	2.64	2.66	3.24	3.38	3.20	3.71	3.49	4.10	4.41	4.56	5.28	5.46	6.84	6.41	5.87	6.37	6.78	7.17	7.66	7.61
LIVER, DIS. OF.....	1.15	1.06	1.06	1.17	1.20	.82	1.21	.83	.88	.87	1.08	1.34	1.19	1.30	.94	2.23	1.20	.98	1.31	1.08	1.47	.82	1.32	1.24	1.14	1.26	1.42	1.40	1.20	1.38
OLD AGE.....	6.18	5.00	5.25	5.22	5.95	5.29	5.89	5.22	5.68	4.95	4.69	4.38	4.35	3.63	2.87	2.80	3.46	2.48	2.63	2.63	2.76	2.24	2.98	3.07	2.84	2.95	3.31	2.67	2.43	2.80
PNEUMONIA.....	8.69	5.31	7.49	7.37	7.90	7.01	7.16	7.84	7.14	8.65	8.18	7.70	7.62	7.69	8.20	8.60	8.85	10.53	9.36	9.15	8.95	8.96	7.87	9.21	10.99	9.36	9.06	10.07	11.13	12.18
SCARLET FEVER....	2.05	1.46	2.03	7.37	9.99	2.96	.94	.64	1.88	1.70	1.50	4.29	3.11	.82	.23	.50	.91	2.62	1.73	1.43	.71	.41	.31	.39	.39	.27	.37	.69	.88	.43
WHOOPING COUGH...	1.23	.75	1.28	1.02	.44	1.46	1.48	.17	.83	.79	.83	.32	.75	1.23	1.00	1.16	.34	.31	1.82	.60	.79	.79	1.39	1.16	.98	.21	1.08	1.91	.10	.61

## TABLE XCIII.—BIRTHS.

*Occupations of the Fathers.—1905.*

OCCUPATIONS.	Number.	OCCUPATIONS.	Number.
Actors.....	3	Rope Makers.....	1
Agents and Canvassers.....	25	Sail.....	4
Architects.....	5	Screw.....	1
Artesian Well Sinkers.....	1	Shoe.....	81
Artists.....	3	Soap.....	3
Assayers and Analytical Chemists.....	1	Tool.....	38
Auctioneers.....	1	Toy.....	1
Baggage Masters.....	7	Varnish.....	1
Bakers.....	99	Wringer.....	4
Balloonists.....	1	Bill Posters.....	2
Bankers and Brokers.....	14	Blacksmiths.....	120
Bank Officers.....	1	Bleachers and Fullers.....	24
Barbers and Hair Dressers.....	147	Boat Builders.....	1
Bartenders.....	83	Boatmen.....	2
Beamers.....	9	Bookbinders.....	2
Belt Makers.....	6	Bookkeepers.....	74
Block.....	1	Booksellers.....	1
Bobbin.....	20	Bootblacks.....	10
Boiler.....	20	Bottlers.....	11
Bolt.....	12	Braiders.....	1
Box.....	18	Brakemen.....	29
Brush and Broom.....	2	Brass Workers.....	3
Cabinet.....	15	Brewers.....	10
Cap.....	5	Brick and Stone Layers.....	19
Carriage, and Trimmers.....	2	Bridge Builders.....	2
Cigar.....	15	Building Movers.....	3
Clock and Watch.....	8	Butchers and Marketmen.....	63
Comb.....	1	Butlers.....	10
Core.....	8	Cab Drivers and Hackmen.....	8
Harness and Saddle.....	12	Calenderers.....	1
Pattern.....	10	Carders.....	28
Pickle.....	1	Card Grinders.....	5

TABLE XCIII.—Continued.

OCCUPATIONS.	Number.	OCCUPATIONS.	Number.
Carpenters.....	446	Cooks and Caterers.....	32
Carpet Layers.....	2	Coopers.....	8
Car Repairers.....	2	Coppersmiths.....	1
Car Starters.....	2	Copyists.....	1
Chasers.....	4	Cutters.....	5
Chauffeurs.....	4	Velvet.....	2
Circus Performers.....	1	Dairymen.....	1
Civil Engineers.....	10	Decorators.....	1
Clergymen.....	19	Dentists.....	6
Clerks and Salesmen.....	497	Designers.....	9
Bank.....	5	Die Cutters.....	6
Postal.....	6	Die Sinkers.....	2
Clothiers.....	9	Distillers.....	1
Coachmen.....	44	Draughtsmen.....	6
Coal and Wood Dealers.....	19	Dresser-tenders.....	38
Fish and Oyster.....	7	Drivers.....	75
Furniture.....	8	Druggists and Apothecaries.....	30
Grain and Hay.....	4	Dyers.....	63
Hardware.....	4	Electricians.....	67
Ice.....	8	Electrical Engineers.....	7
Junk.....	38	Electric Light Trimmers.....	4
Liquor.....	58	Electrotypers.....	1
Lumber.....	4	Elevator Men.....	3
Milk.....	3	Enamellers.....	5
News.....	3	Engineers.....	126
Picture.....	1	Stationary.....	13
Poultry.....	4	Engravers.....	5
Provision.....	4	Expressmen.....	25
Rug.....	1	Farmers.....	323
Shoe.....	4	File Cutters.....	23
Collectors.....	15	File Forgers.....	10
Commercial Travelers.....	39	Finishers.....	11
Compositors.....	8	Brass.....	3
Concreters.....	2	Cloth.....	3
Conductors (Electric car).....	57	Fire Company Members.....	8
Confectioners.....	13	Firemen.....	105
Contractors and Builders.....	32	Fishermen and Oystermen.....	39

TABLE XCIII.—Continued.

OCCUPATIONS.	Number.	OCCUPATIONS.	Number.
Florists.. . . . .	13	Lighthouse Keepers.....	2
Folders.....	23	Linemen.....	18
Foundrymen.....	9	Linotypers.....	2
Fruiterers.....	14	Lithographers.....	4
Gardeners.....	* 64	Locksmiths.....	2
Gas Fitters.....	3	Longshoremen.....	19
Gilders.....	1	Loomfixers.....	97
Glass Workers.....	1	Lumbermen.....	3
Glaziers.....	2	Machinists.....	417
Grocers.....	119	Mail Carriers.....	17
Gunners, U. S. N.....	7	Managers.....	24
Heaters.....	3	Manufacturers.....	27
Horse Trainers.....	1	Marines, U. S. N.....	2
Hostlers.....	20	Masons.....	92
Hotel and Inn Keepers.....	1	Masseurs.....	1
Saloon and Restaurant.....	45	Mechanics.....	30
Iceemen.....	6	Melters.....	2
Importers of Dye Stuffs.....	1	Merchants.....	80
Inspectors.....	14	Messengers.....	4
Car.....	4	Milkmen.....	11
Cloth.....	4	Millers.....	9
Insurance Agents.....	61	Milliners.....	1
Real Estate.....	13	Miners.....	3
Interpreters.....	1	Motormen.....	63
Iron Rollers and Workers.....	19	Molders.....	124
Ivory Carvers.....	2	Musicians.....	23
Janitors.....	32	Newspaper Carriers.....	1
Jewelers.....	223	Oculists.....	1
Jobbers.....	1	Officers, Army.....	4
Journalists (Editors and Reporters)....	6	Navy.....	2
Knitters.....	15	Operatives.....	616
Laborers.....	2,751	Opticians.....	5
Lapidaries.....	3	Organ Grinders.....	1
Lathers.....	5	Painters.....	249
Laundrymen.....	13	Carriage.....	5
Lawyers.....	25	Sign.....	5
Leather Workers.....	1	Paper Hangers.....	6

TABLE XCIII.—Continued.

OCCUPATIONS.	Number.	OCCUPATIONS.	Number.
Pavers.....	6	Sailors.....	20
Pawnbrokers.....	1	U. S. N.....	12
Paymasters, U. S. N.....	2	Sea Captains and Ship Masters.....	12
Pearl Workers.....	2	Secretaries.....	4
Peddlers.....	147	Section-hands.....	11
Perchers.....	1	Sextons.....	5
Photographers.....	8	Sheriffs, Constables, and Policemen....	53
Physicians.....	37	Ship Carpenters.....	2
Piano Tuners.....	1	Silversmiths.....	48
Pilots.....	1	Sketchmakers.....	1
Pipe Coverers.....	3	Slaters.....	5
Plasterers and Stucco Workers.....	14	Soldiers.....	3
Platers (Electro).....	3	Spinners.....	125
Gold.....	1	Stable Keepers.....	5
Nickel.....	2	Stablemen.....	5
Silver.....	2	Stampers.....	2
Plumbers.....	75	Starch Mixers.....	1
Polishers.....	39	Station Agents.....	9
Silver.....	12	Steam Pipers.....	33
Pork and Meat Cutters and Pork Packers.....	24	Steeple Jacks.....	1
Postmasters.....	1	Stenographers.....	2
Porters.....	29	Stereotypers.....	1
Pressmen.....	7	Stevedores.....	6
Printers.....	30	Stewards.....	5
Calico.....	2	Stone Cutters and Marble Workers....	50
Proofreaders.....	1	Store Keepers.....	24
Public Officers.....	6	Stove Mounters.....	1
Publishers.....	1	Superintendents and Overseers.....	160
Quarrymen.....	10	Switchmen and Gatemen.....	13
Railroad Conductors.....	6	Tailors.....	119
Employees.....	25	Tanners and Curriers.....	2
Refiners, Gold and Silver.....	7	Taxidermists.....	1
Riggers.....	2	Teachers and Professors.....	20
Roll Coverers.....	5	Music.....	3
Roofers.....	6	Teamsters.....	387
Rubber Workers.....	150	Telegraph Operators.....	13
Sacristans.....	1	Tinsmiths.....	32



TABLE XCIII.—Concluded.

OCCUPATIONS.	Number.	OCCUPATIONS.	Number.
Traders, Horse.....	4	Weavers.....	787
Treasurers.....	3	Weighers.....	1
Truckmen.....	4	Wheelwrights.....	6
Twisters.....	13	Window Dressers.....	1
Typewriters.....	1	Wire Workers.....	16
Undertakers.....	14	Wood Choppers.....	6
Upholsterers.....	11	Wood Finishers.....	3
Valets.....	1	Wood Sawers.....	1
Veterinaries.....	3	Wood Turners.....	12
Waiters.....	21	Wood Workers.....	4
Watchmen.....	30	Wool Sorters.....	25

## TABLE XCIV.—MARRIAGES.

*Occupations of the Grooms.—1905.*

OCCUPATIONS.	Number.	OCCUPATIONS.	Number.
Actors.....	7	Paper.....	2
Advertising Agents.....	7	Pattern.....	6
Agents and Canvassers.....	13	Reed.....	1
Architects.....	5	Sail.....	1
Army Officers.....	2	Sash and Blind.....	1
Artesian Well Drivers.....	2	Screws.....	5
Artists.....	3	Shoe.....	59
Assayers and Analytical Chemists.....	6	Spectacle.....	1
Bacteriologists.....	1	Spring.....	1
Baggage Masters.....	2	Tack.....	1
Bakers.....	32	Tool.....	24
Bankers and Brokers.....	12	Wringer.....	2
Bank Officers.....	4	Blacksmiths.....	48
Barbers.....	47	Bleachers and Fullers.....	16
Bartenders.....	42	Boatmen.....	1
Base Ball Players.....	1	Bookbinders.....	2
Beamers.....	1	Bookkeepers.....	48
Bellmen.....	3	Bottlers.....	5
Belt Makers.....	1	Braiders.....	2
Bobbin.....	2	Brakemen.....	22
Boiler.....	8	Brewers.....	6
Bolt.....	3	Brick and Stone Layers.....	8
Box.....	12	Building Movers.....	1
Cabinet.....	7	Butchers and Marketmen.....	20
Cap and Hat.....	1	Butlers.....	7
Carriage, and Trimmers.....	2	Buyers.....	2
Cigar.....	7	Cab Drivers and Hackmen.....	2
Clock and Watch.....	7	Calenderers.....	4
Comb.....	1	Calico Printers.....	1
Core.....	8	Carders.....	18
Emery wheel.....	1	Card Grinders.....	4
Gas.....	1	Carpenters.....	137
Harness and Saddle.....	5	Carpet Layers.....	3
Lace.....	1	Case Hardeners.....	2
Mattress Makers.....	2	Caulkers.....	1
Nail.....	2	Chasers.....	4

TABLE XCIV.—Continued.

OCCUPATIONS.	Number.	OCCUPATIONS.	Number.
Chauffeurs.....	4	Crossing Tenders.....	1
Civil Engineers.....	5	Decorators.....	9
Clergymen.....	12	Dentists.....	10
Clerks.....	205	Designers.....	11
Hotel.....	4	Die Cutters and Sinkers.....	6
Postal.....	3	Divers.....	1
Clothiers.....	3	Draughtsmen.....	22
Cloth Measurers.....	1	Dresser Tenders.....	26
Coachmen.....	25	Drillers.....	2
Coal and Wood Dealers.....	4	Drivers.....	18
Fish and Oysters.....	3	Druggists and Apothecaries.....	20
Furniture.....	3	Dyers.....	39
Hardware.....	1	Electrical Engineers.....	5
Ice.....	3	Electricians.....	52
Junk.....	2	Electric Car Starters.....	1
Liquor.....	24	Electrotypers.....	2
Lumber.....	1	Elevator Men.....	4
Machinery.....	1	Engineers.....	44
Milk.....	6	Stationary.....	29
News.....	3	Engravers.....	6
Oil.....	1	Etchers.....	1
Provision.....	4	Expressmen.....	5
Sewing Machine.....	1	Farmers.....	139
Shoe.....	1	File Cutters and Grinders.....	6
Umbrella.....	1	File Forgers.....	7
Collectors.....	5	Finishers.....	18
Commercial Travelers.....	41	Brass.....	5
Compositors.....	3	Cloth.....	13
Concreters.....	2	Fire Company Members.....	2
Conductors, Electric Car.....	27	Firemen.....	34
Confectioners.....	7	Fishermen and Oystermen.....	13
Contractors and Builders.....	13	Florists.....	5
Cooks and Caterers.....	22	Folders.....	13
Coopers.....	1	Foresters.....	1
Coppersmiths.....	5	Forgers.....	1
Cutters.....	3	Foundrymen.....	5
Corduoy.....	2	Fruiterers.....	7

TABLE XCIV.—Continued.

OCCUPATIONS.	Number.	OCCUPATIONS.	Number.
Gardeners.....	17	Lumbermen.....	1
Gasfitters.....	3	Machinists.....	259
Gilders.....	2	Mail Carriers.....	8
Goldsmiths.....	1	Managers.....	13
Glass Cutters and Workers.....	3	Manufacturers.....	23
Grocers.....	34	Mariners.....	13
Gunners, U. S. N.....	2	Masons.....	30
Hatters.....	3	Masseurs.....	2
Hostlers.....	13	Mechanics.....	17
Hotel and Inn Keepers.....	7	Merchants.....	35
Saloon and Restaurant.....	9	Messengers.....	1
Ice-men.....	6	Milkmen.....	4
Inspectors.....	6	Millers.....	1
Car.....	1	Millwrights.....	1
Cloth.....	6	Miners.....	1
Telephone.....	1	Motormen.....	32
Insurance Agents.....	17	Molders.....	49
Real Estate.....	14	Musicians.....	19
Iron Workers.....	17	Naval Officers.....	2
Brass.....	2	Nurses.....	6
Steel.....	6	Oculists.....	1
Janitors.....	18	Operatives.....	211
Jewelers.....	149	Opticians.....	2
Jewelry Colorers.....	2	Oyster Openers.....	1
Jobbers.....	2	Painters and Glaziers.....	94
Journalists (Editors and Reporters)....	4	Painters, Carriage.....	4
Knitters.....	3	Paper Hangers.....	7
Laborers.....	445	Pawnbrokers.....	1
Lamplighters.....	1	Paymasters.....	3
Laundrymen.....	12	Pearl Workers.....	4
Lawyers.....	20	Peddlers.....	21
Lead Workers.....	1	Photographers and Lithographers.....	12
Leather Workers.....	2	Physicians.....	26
Linemen.....	10	Piano Movers.....	1
Linotypers.....	2	Piano Tuners.....	1
Life Saving Service Men.....	2	Picture Framers.....	1
Longshoremen.....	4	Pilots.....	2
Loom Fixers.....	28	Pipe Coverers.....	2

TABLE XCIV.—Concluded.

OCCUPATIONS.	Number.	OCCUPATIONS.	Number.
Plasterers and Stucco Workers.....	5	Stereotypers.....	2
Platers, Electro.....	4	Stevedores.....	1
Plumbers.....	39	Stewards.....	4
Polishers.....	10	Stock Breeders.....	1
Brass.....	1	Stone Cutters and Marble Workers....	15
Silver.....	5	Store Keepers.....	1
Poolroom Keepers.....	2	Straw Workers.....	1
Pork and Meat Cutters and Pork Packers..... }	12	Students.....	19
Porters.....	14	Superintendents and Overseers.....	58
Pressmen.....	11	Surveyors.....	1
Printers.....	23	Tailors.....	32
Railroad Conductors.....	11	Tanners and Curriers.....	3
Employees.....	11	Teachers and Professors.....	17
Refiners.....	1	Teamsters.....	157
Roll Coverers.....	4	Telegraph Operators.....	19
Roofers.....	2	Telephone.....	1
Rubber Works.....	68	Theatrical Managers.....	1
Sailors.....	8	Tinsmiths.....	13
U. S. Navy.....	5	Tobacconists.....	4
Sea Captains and Ship Masters.....	5	Towermen.....	1
Seamen.....	7	Treasurers.....	2
Secretaries.....	7	Twisters.....	2
Section Hands.....	14	Undertakers.....	5
Servants.....	1	Upholsterers.....	3
Sextons.....	1	Valets.....	1
Shearers.....	1	Veterinary Surgeons.....	1
Sheriffs, Constables, and Policemen....	11	Waiters.....	19
Carpenters.....	2	Watchmen.....	12
Silversmiths.....	17	Weavers.....	226
Slaters.....	2	Weighers.....	1
Soldiers.....	10	Wheelwrights.....	1
Speeder Tenders.....	5	Window Dressers.....	1
Spinners.....	59	Wire Workers.....	14
Stablekeepers.....	6	Wood Turners.....	5
Stationers.....	1	Wood Workers.....	6
Steam Pipers.....	12	Wool Combers.....	5
Stenographers.....	4	Wool Sorters.....	12

TABLE XCV.

*Occupations and Ages of Decedents, from June 1, 1852 to January 1, 1906, comprising a period of fifty-three years and seven months Alphabetically Arranged.*

(OCCUPATIONS UNDER 10, AND AGES UNDER 20, EXCLUDED.)

OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.	OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.
MALES.				MALES.			
Actors.....	25	892	35.68	Broom and Brush Makers.....	18	905	50.28
Agents and Canvassers.....	274	14,159	51.68	Cabinet Makers.....	170	9,991	58.77
Insurance.....	58	3,275	56.47	Carriage, and Trimmers.....	158	9,310	58.92
Real Estate.....	45	2,889	64.20	Cigar.....	125	5,906	47.25
Architects.....	25	1,466	58.64	Harness.....	160	8,343	52.14
Artists.....	54	2,815	52.13	Pattern.....	107	6,345	59.30
Assayers and Analytical Chemists..	12	671	55.92	Pump and Block.....	15	826	55.07
Authors.....	10	692	69.20	Rope.....	25	1,672	66.88
Bakers.....	219	13,661	62.38	Sail.....	41	2,393	52.14
Bankers and Brokers.....	210	12,639	60.19	Sash and Blind.....	11	554	59.28
Bank Officers.....	79	5,064	64.10	Shoe.....	745	43,278	58.09
Barbers.....	367	13,446	36.64	Tool.....	67	3,454	51.55
Bartenders.....	89	3,445	38.71	Watch and Clock.....	53	3,006	56.71
Belt Makers.....	23	1,216	52.87	Blacksmiths and Farriers.....	888	48,906	55.08
Boiler.....	103	4,432	43.63	Bleachers and Fullers.....	95	4,737	49.86
Box.....	27	1,397	51.74	Boatmen.....	38	2,060	54.21



TABLE XCV.—Continued.

OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.	OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.
MALES.				MALES.			
Boat Builders.....	35	2,210	63.14	Coal and Wood Dealers.....	31	1,806	58.26
Bookbinders.....	30	1,397	46.57	Fish and Oyster Dealers.....	37	2,214	59.84
Bookkeepers.....	540	25,300	46.85	Furniture.....	10	658	65.80
Bottlers.....	14	561	40.07	Hardware.....	10	639	63.90
Brakemen.....	183	5,482	29.96	Junk.....	23	1,224	53.21
Brewers.....	29	1,395	48.10	Liquor.....	162	7,552	46.61
Brick and Stone Layers.....	20	912	45.60	Lumber.....	26	1,554	59.77
Butchers and Marketmen.....	373	19,415	52.05	Provision.....	33	2,043	61.91
Calico Printers.....	61	3,389	55.56	Shoe.....	14	757	54.07
Calkers.....	16	1,114	69.62	Collectors.....	21	1,077	51.29
Car Conductors and Motormen.....	105	4,412	42.02	Commercial Travelers.....	52	2,436	46.85
Carders.....	29	1,634	56.34	Compositors.....	11	534	48.55
Carpenters and Joiners.....	2,807	160,406	57.14	Confectioners.....	60	2,763	46.05
Chasers.....	27	1,138	42.15	Contractors and Builders.....	179	10,785	60.25
Civil Engineers.....	62	3,135	50.56	Cooks and Caterers.....	189	9,163	48.48
Clerks and Salesmen.....	1,877	71,901	38.31	Coopers.....	143	9,407	65.78
Clergymen.....	322	20,581	63.91	Coppersmiths.....	19	816	42.95
Clothiers.....	18	991	55.05	Cutters.....	10	444	44.40
Coachmen.....	243	10,892	45.20	Decorators.....	16	631	39.44

TABLE XCV.—Continued.

OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.	OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.
MALES.							
Dentists.....	72	3,816	53.00	Folders.....	15	681	45.40
Designers.....	30	1,527	50.90	Founders.....	50	2,576	51.52
Die Sinkers.....	33	1,677	50.82	Fruiters.....	14	691	49.36
Draughtsmen.....	27	952	35.26	Garliners.....	438	26,185	59.78
Drivers, Cab, Hack, etc.....	164	6,759	41.21	Gas Fitters.....	65	2,830	43.54
Druggists and Apothecaries.....	161	7,592	47.16	Gilders.....	13	595	45.77
Dyers.....	191	9,933	52.01	Grocers.....	578	31,802	55.02
Electricians.....	42	1,476	35.14	Gun and Locksmiths.....	29	1,554	53.59
Enamellers.....	13	633	51.00	Hatters.....	28	1,538	54.93
Engineers and Firemen.....	672	34,095	50.74	Hostlers.....	209	9,979	47.75
Engravers.....	170	8,421	49.54	Hotel and Inn Keepers.....	210	11,795	56.17
Expressmen.....	129	6,573	50.95	Saloon and Restaurant.....	246	11,330	46.06
Farmers.....	8,013	538,798	67.24	Stable.....	97	5,311	54.75
Finishers.....	46	2,452	53.30	Store.....	96	5,230	54.37
File Cutters.....	119	4,996	41.98	House Movers.....	10	638	63.80
Nail.....	12	490	40.83	Inspectors.....	37	1,847	49.92
Fire Company Members.....	14	670	47.85	Inventors.....	17	1,117	65.71
Fishermen and Oystermen.....	331	17,977	54.31	Iron Rollers and Workers.....	30	1,344	44.80
Florists.....	79	4,380	55.44	Janitors.....	169	9,284	54.93

TABLE NCV.—Continued.

OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.	OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.
MALES.				MALES.			
Jewelers.....	1,513	63,672	42.08	Merchants.....	1,602	93,153	58.15
Journalists (Editors and Reporters)...	63	3,064	48.63	Milkmen.....	29	1,147	39.55
Judges and Justices.....	21	1,374	65.43	Millers.....	58	3,426	59.07
Laborers.....	13,355	661,092	49.50	Millwrights.....	42	2,867	68.26
Lamplighters.....	22	1,192	54.18	Miners.....	22	1,328	60.36
Lapidaries.....	15	631	42.07	Molders.....	460	24,925	54.18
Lathers.....	10	412	41.20	Musicians.....	117	5,454	46.62
Laundrymen.....	39	1,702	43.64	Naval Officers.....	24	1,150	47.92
Lawyers.....	240	13,870	57.79	Nurses.....	22	1,152	52.36
Linemen.....	21	861	41.00	Operatives.....	3,105	137,566	44.30
Longshoremen.....	15	609	40.60	Opticians.....	11	637	57.91
Loom Fixers.....	47	2,309	49.12	Painters and Glaziers.....	1,390	69,166	49.76
Machinists.....	2,144	105,421	49.17	Paperhangers.....	32	1,715	53.59
Mail Carriers.....	31	1,421	45.84	Peddlers.....	248	12,454	50.22
Manufacturers.....	786	47,950	61.01	Photographers and Lithographers.....	40	1,883	47.07
Mariners.....	530	26,436	49.88	Physicians.....	401	23,649	58.97
Masons.....	1,149	65,480	56.99	Pilots.....	32	1,881	58.78
Mechanics.....	554	29,409	53.08	Plasterers and Stucco Workers.....	74	3,593	48.55
Melters.....	13	739	56.85	Platers.....	20	1,089	54.45

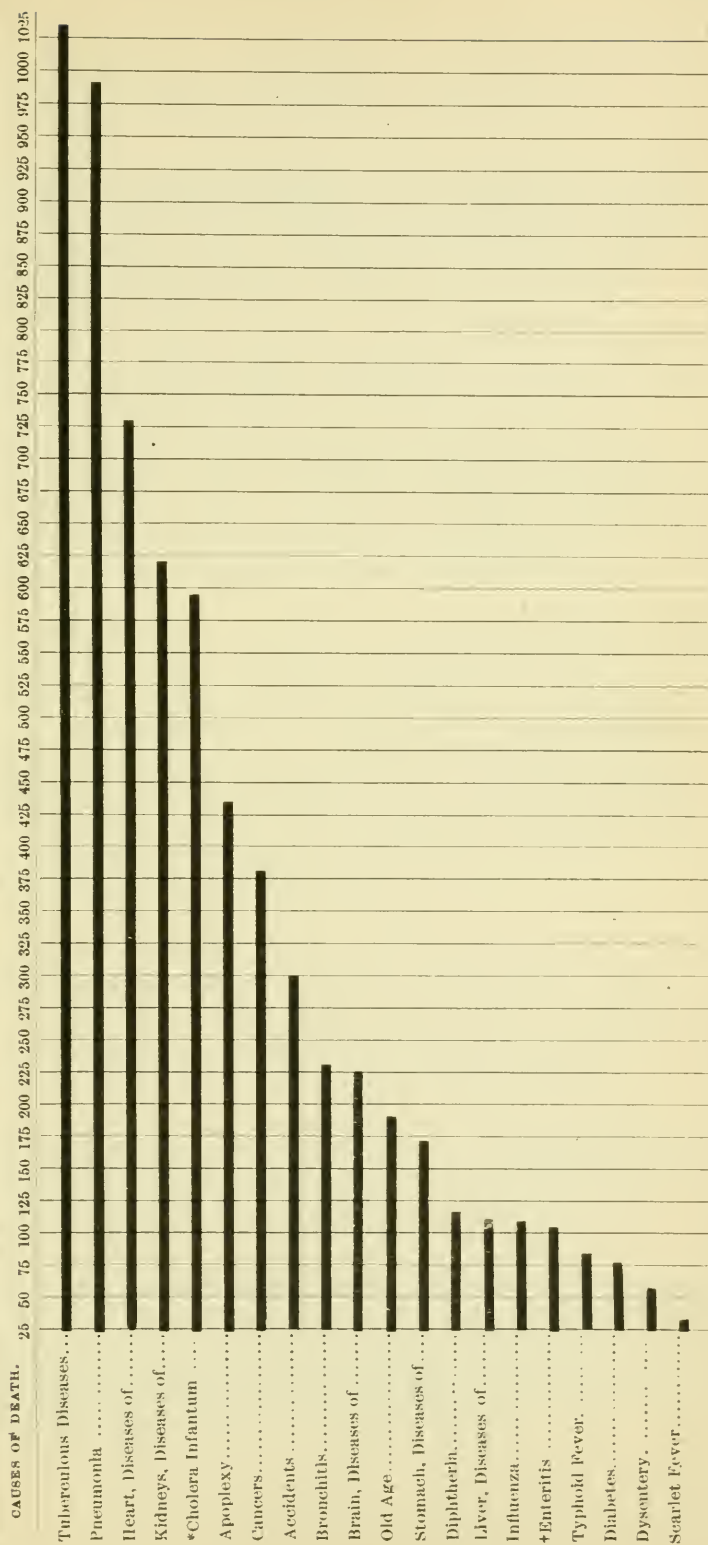
TABLE NCV.—Continued.

OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.	OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.
MALES.				MALES.			
Plumbers.....	166	6,760	40.72	Silversmiths.....	175	7,978	45.59
Polishers.....	69	3,084	43.25	Slaters.....	12	572	47.67
Pork and Meat Cutters and Packers.....	32	1,446	45.19	Soldiers.....	171	5,334	31.19
Porters.....	69	3,259	47.23	Spinners.....	48	2,612	54.42
Pressmen.....	10	400	40.00	Steamfitters.....	36	1,486	41.28
Printers.....	264	14,576	55.21	Stevedores.....	21	1,001	47.67
Public Officers.....	116	7,053	60.80	Stewards.....	36	1,728	48.00
Railroad Officials.....	13	735	56.54	Stone Cutters and Marble Workers.....	56	2,874	51.32
Railroad Employees.....	16	731	45.69	Students.....	101	2,369	23.46
Refiners.....	20	911	45.55	Superintendents and Overseers.....	544	30,555	56.17
Riggers.....	26	1,397	53.75	Switchmen, Gate-men, etc.....	43	2,280	53.02
Roll Covers.....	38	2,241	58.98	Tailors.....	527	29,262	55.53
Rubber Workers.....	262	11,033	42.11	Tanners and Carriers.....	71	4,497	63.34
Sailors.....	411	19,797	48.17	Teachers and Professors.....	165	8,373	50.75
Sea Captains.....	233	16,534	70.96	Teamsters.....	1,002	46,735	46.64
Servants.....	35	1,555	44.43	Telegraph and Telephone Operators.....	31	920	29.68
Sextons.....	18	1,044	58.00	Tinsmiths.....	181	9,002	49.73
Sheriffs and Policemen.....	181	9,882	54.60	Tobacco-nists.....	20	1,111	55.55
Ship Carpenters.....	93	6,451	69.73	Traders.....	286	14,409	50.38

TABLE XCV.—Concluded.

OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.	OCCUPATIONS.	Total Mortality.	Aggregate Ages.	Average Age.
MALES.				FEMALES.			
Tradesmen, General.....	185	8,919	48.21	Dressmakers and Seamstresses.....	486	20,169	41.50
Treasurers.....	19	1,006	52.95	Jewelers.....	35	1,143	32.66
Undertakers.....	66	3,728	56.48	Laboring.....	18	783	43.50
Upholsterers.....	74	3,161	42.72	Laundress.....	79	3,783	47.89
Veterinary Surgeons.....	11	604	54.91	Milliners.....	79	2,794	35.37
Waiters.....	186	7,272	39.10	Nurses.....	169	9,422	55.75
Watchmen.....	249	14,279	57.35	Operatives.....	1,274	42,097	33.04
Weavers.....	221	10,417	47.14	Physicians.....	13	741	57.00
Wheelwrights.....	134	8,158	60.88	Rubber Workers.....	31	924	29.81
Wire Workers.....	27	1,169	43.30	Servants.....	715	33,647	47.06
Wood Finishers.....	11	572	52.00	Sisters of Mercy.....	47	2,015	42.87
Wood Turners.....	73	3,520	48.22	Storekeepers.....	13	614	47.23
Wool Sorters.....	86	4,324	50.28	Tailresses.....	160	7,527	47.04
Total.....	60,079	3,171,232	52.78	Teachers.....	313	15,484	49.47
FEMALES.				Telegraph and Telephone Operators.....	13	373	28.69
Boarding-house Keepers.....	28	1,708	61.00	Waitresses.....	19	597	31.42
Bookkeepers.....	31	928	29.94	Weavers.....	65	2,808	43.20
Clerks and Saleswomen.....	93	2,808	30.19	Total.....	3,768	154,811	41.09
Cooks.....	87	4,446	51.10	Grand Total.....	63,847	3,326,043	52.09

Diagram III. Exhibiting the comparative mortality by absolute number of decedents, from twenty principal causes of death in Rhode Island, in 1905.



\* Includes all diarrheal diseases under two years of age.

+ Includes all diarrheal diseases over two years of age.





## THE RETURNS OF MEDICAL EXAMINERS.

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The number of deaths investigated by the medical examiners during the year 1905 was 521. These deaths resulted from sudden, suspicious, unknown, and violent causes. Of this number 376, or 72 per cent., were males, and 145, or 28 per cent., were females.

**HOMICIDE.**—The number of deaths from homicide was 7, or 1.3 per cent., of the whole number investigated. Of these 7 cases, 3 were by gunshot wounds of head, 1 by stab wound of neck, by blow of fist on head, by injuries to head, and by illuminating gas. In two instances the murderer committed suicide, 1 was a case of justifiable homicide, as the man was shot while breaking and entering a house by man defending his home; 1 assailant was brought to trial, convicted, and sentenced to imprisonment for life.

**SUICIDE.** The number of deaths by suicide, reported by the medical examiners in 1905, was 54, or 10.4 per cent. of the whole number examined. Death was caused as follows: By drowning, 7; by hanging, 7; by illuminating gas, 4; by incised wound of throat, 6; by jumping from window, 2; by placing self on railroad track in front of engine, 1; by severing artery in arm, 1; by shooting in chest, 2; shooting in head, 10; by shooting in heart, 2; by taking powdered camphor, 1; by carbolic acid, 5; by corrosive sublimate, 1; by cyanide potassium, 2; by Paris green, 3.

**ACCIDENTS.**—The returns of the medical examiners show 225 deaths from accidents, specified as follows: Asphyxia, 20; burns and scalds, 16; drowning, 58; electric car, 17; electrical shock, 4; elevator, 1; exposure to cold, 1; falls, 30; firearms, 3; machinery, 4; poison, 7; railroad, 37; and 27 various other accidents.

**ASPHYXIA.**—By bedclothes and overlying, 5; by illuminating gas, 9; by chloroform, while extracting teeth, 1; by cave-in of sand bank, 1; suffocated in privy vault (fell in), 1; choked by food, 2; by falling face downward in tub of water, 1. Total, 20.

**BURNS AND SCALDS.**—In bonfire, 2; in forest fire, 1; from upset kerosene lamp, 1; by explosion of kerosene lamp, 1; by clothing taking fire from stove, 1; by playing with fire and matches, 2; by falling into pail of hot water, 2; scalded with hot water, 1; by ignition of clothing, manner unknown, 5. Total, 16.

DROWNING.—Bathing or swimming, 8; through ice, 2; overboard from boats, 4; by capsized sailboat, 3; upset canoe, 4; from barge, 1; while diving for lost torpedo at torpedo station, 1; while trying to jump from one boat to another, 1; from wharf into river, 1; by falling into river during epileptic fit, 1; while intoxicated walked into water, 1; by falling from plank while wheeling oyster shells onto barge, 1; while playing near water, 6 (children); found in water, circumstances unknown, 24. Total, 58.

ELECTRIC CAR.—Struck by car while crossing or walking on track, 10; while sitting on track, 1; by fall from car, 1; by collision of car and bicycle, 1; by collision of car with team, 3; collision of car with carriage, 1. Total, 17.

ELECTRICAL SHOCK.—While trimming lamp neglected to shut off current, 1; a lineman on electric-light pole neglected to use his rubber gloves and usual straps; by live wire while painting pole, 1; a lineman stringing telephone wire, wire sagged and touched live wire. Total, 4.

ELEVATOR.—By fall down elevator-well, 1.

EXPOSURE.—Old man wandered away from Soldier's Home.

FALLS.—Down stairs or steps, 4; on floor or ground, 8; on ice, 1; from building or staging, 7; from ladder, 1; from window, 2; from tree, 1; from team under horse's feet, 1; from load of hay, breaking neck, 1; from load of cornstalks, 1; from stable loft to floor, 1; from pile of lumber, 1 (child); from railroad bridge to ground, 1. Total, 30.

FIREARMS.—Gunshot wound in head (probably accidental), 1; gunshot wound in neck, gun in hands of brother, 1 (child); by discharge of cannon on yacht, 1. Total, 3.

MACHINERY.—Chest crushed by falling into drying machine at dyeing works, 1; by clothing being caught around shafting, 3. Total, 4.

POISON.—By whiskey drank while with small brother, 1 (child); by tablets containing Dover's powder and aconite, 1 (child); by drinking milk containing formalin used by milkman as a preservative, 2 (twins, two months old); by carbolic acid given by mistake to infant, 1; by overdose of "Soothing Syrup," 1; by strychnine tablets mistaken for candy by child, 1. Total, 7.

RAILROAD.—There were 37 deaths by railroad accidents in the medical examiners' returns for 1905.

ACCIDENTS, VARIOUS OTHER.—Sunstroke, 3; run over by heavy teams, 2 (children); and one each, as follows: Knocked down by team, traumatic pneumonia following; crushed by falling tombstone; struck by mass of metal; crushed by cave-in of trench, causing internal hemorrhage; thrown from load of logs, logs rolling on him; crushed between coal bucket and barge; crushed between ice-cart and fence; crushed by falling roof of tower; crushed by steam roller; slight injury to hand, tetanus following; fractured skull and hemorrhage of brain from being forcibly ejected from bar-room; fracture of elbow, with sepsis following; injuries to head while intoxicated; stepped on rusty nail, septicemia following; laceration of great vessels of neck by being caught between wagon and barn sill; fracture of skull from diving onto a rock in pond; crushed between buffers; thrown from automobile; shock due to blow from stick (boys fooling); concussion and contusion of brain, found on street, circumstances unknown. Total, 25.

The whole number of deaths by accident in the State during 1905 was 301, showing there were 76 deaths by accident, where no medical examiner was called. In these cases a physician had been in attendance and had reported the cause of death. In many instances the death did not immediately follow the accident. The division of these 301 deaths by accident was as follows (see page 190 of this report) Asphyxia, 23; burns and scalds, 21; drowning, 59; electric car, 18; electrical shock, 4; elevator, 1; exposure to cold and storm, 1; falls, 68; firearms, 3; heat, 11; machinery, 5; poison, 10; railroad, 36; and 41 by various other accidents.

A comparison of these figures with the cases which are viewed by medical examiners will show the cases which are more open to suspicion of avoidable violence. The difference, 38, is more marked under the clause of falls.

Under sudden deaths which were investigated by medical examiners, were 27 from alcoholism, including one from delirium tremens; Bright's disease, 8; chronic nephritis, 9; nephritis and acute dementia precox, 1; kidney disease, 1; uremia, 5; cystitis, 1; apoplexy and cerebral hemorrhage, 16; organic heart disease, 56; valvular heart disease, 7; heart disease and old age, 1; heart disease and over-exertion, skipping rope, 1; diabetes, 2; angina pectoris, 1; phthisis, 3; pulmonary tuberculosis, 8; general tuberculosis, 1; hemorrhage

from lungs, 2; pleurisy, with effusion, 1; œdema of lungs, 1; typhoid fever, 3; indigestion, 1 (adult); indigestion from improper feeding, 4 (infants); convulsions, 3 (infants); indigestion after mumps, 1; marasmus, 3 (infants); septicemia following miscarriage, 5; and one each, as follows: Whooping cough, old age and exposure, myocarditis, intestinal obstruction, chronic lead poisoning, hemorrhage of leg from ulcer, gastritis, gastro-enteritis, cirrhosis of liver, asthma, capillary bronchitis, cerebro-spinal meningitis, diphtheria of vagina, embolism, pulmonary embolism, epilepsy, post-partum hemorrhage, tetanus from bone pegging operation for fractured thigh, some stomach trouble exact cause unknown, lobar pneumonia, malnutrition and heat, cholera infantum, icterus neonatorum, diarrhea and malnutrition, improper care and poor nourishment, lack of vitality from birth, open foramen ovale; besides these, there were 13 sudden deaths of adults with cause unknown, 6 infants, cause unknown; 11 premature births, and 6 still births. Total, 235.

YEARS.	Homicide.		Suicide.		Accident or Negligence.		Natural and Unknown Causes, Including Alco- holism.		Total.
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
1894.....	9	3.1	45	15.6	141	49.0	93	32.3	288
1895.....	6	1.7	31	8.5	233	61.4	103	28.4	363
1896.....	1	0.3	27	8.3	177	54.3	121	37.1	326
1897.....	12	3.4	32	9.2	157	45.1	147	42.3	348
1898.....	12	3.1	41	10.7	203	53.0	127	33.2	383
1899.....	15	3.2	39	8.4	214	45.8	199	42.6	467
1900.....	15	2.8	59	11.2	258	48.8	197	37.2	529
1901.....	6	1.1	55	10.2	276	51.0	204	37.7	541
1902.....	11	2.2	56	11.3	258	52.0	171	34.5	496
1903.....	7	1.2	48	8.4	288	50.4	229	40.0	572
1904.....	11	2.0	64	11.5	250	44.8	233	41.7	558
1905.....	7	1.3	54	10.4	225	43.2	235	45.1	521

# THE INTERNATIONAL CLASSIFICATION

## OF

# CAUSES OF DEATH.

*Adopted by the United States Census Office for the Compilation of Mortality Statistics, for use beginning with the year 1900.*

## DETAILED CLASSIFICATION.

### ALL CAUSES (STILL-BIRTHS EXCLUDED).

#### I.

#### General Diseases.

##### (A. Epidemic Diseases.)

1. Typhoid Fever (Abdominal Typhus).
2. Exanthematic Typhus.
3. Relapsing Fever.
4. Intermittent Fever and Malarial Cachexia.
4. *Repeated. Malarial Cachexia.*
5. Smallpox.
6. Measles.
7. Scarlet Fever.
8. Whooping Cough.
9. Diphtheria and Croup.
9. *Repeated Diphtheria.*
10. Influenza.
11. Miliary Fever.
12. Asiatic Cholera.
13. Cholera Nostras.
14. Dysentery.
14. *Repeated. Epidemic Dysentery.*
15. Bubonic Plague.
16. Yellow Fever.
17. Leprosy.
18. Erysipelas.
19. Other Epidemic Diseases.

##### (B. Other General Diseases.)

20. Purulent Infection and Septicemia.
21. Glanders and Farcy.
22. Malignant Pustule.
23. Rabies.
24. Actinomycosis, Trichinosis, etc.
25. Pellagra.

27. Tuberculosis of the Lungs.
26. Tuberculosis of the Larynx.
28. Tuberculosis of the meninges.
29. Abdominal Tuberculosis.
30. Pott's Disease.
31. Cold Abscess, Abscess by Congestion
32. White Swelling.
33. Tuberculosis of Other Organs.
34. General Tuberculosis.
35. Scrofula.
36. Syphilis.
37. Gonorrhea (5 years and over.)
38. Gonorrhea (under 5 years).
39. Cancer and Other Malignant Tumors of the Buccal Cavity.
40. Cancer and Other Malignant Tumors of the Stomach and Liver.
41. Cancer and Other Malignant Tumors of the Peritoneum, Intestines and Rectum.
42. Cancer and Other Malignant Tumors of the Female Genital Organs.
43. Cancer and Other Malignant Tumors of the Breast.
44. Cancer and Other Malignant Tumors of the Skin.
45. Cancer and Other Malignant Tumors of Other Organs, or of Organs not Specified.
46. Other Tumors (tumors of the Female Genital Organs excepted).
47. Acute Articular Rheumatism.
48. Chronic Rheumatism and Gout.
49. Scurvy.
50. Diabetes.
51. Exophthalmic Goitre.
52. Addison's Disease.
53. Lukemia.
54. Anemia, Chlorosis.
56. Acute and Chronic Alcoholism.



- 57. Chronic Lead Poisoning.
- 58. Other Chronic Poisonings (occupational).
- 59. Other Chronic Poisonings.
- 55. Other General Diseases.

## II.

Diseases of the Nervous System and  
Organs of Special Sense.

- 60. Encephalitis.
- 61. Simple Meningitis.
- 61. *Repeated. Epidemic Cerebro-spinal Meningitis.*
- 62. Progressive Locomotor Ataxia.
- 63. Other Diseases of the Spinal Cord.
- 64. Congestion and Hemorrhage of the Brain.
- 65. Softening of the Brain.
- 66. Paralysis Without Specified Cause.
- 67. General Paralysis.
- 68. Other Forms of Mental Alienation.
- 69. Epilepsy.
- 70. Convulsions (Non-Puerperal; 5 years and over).
- 71. Convulsions (under 5 years).
- 72. Tetanus.
- 73. Chorea.
- 74. Other Diseases of the Nervous System.
- 75. Diseases of the Eye and its Adnexa.
- 76. Diseases of the Ear.

## III.

## Diseases of the Circulatory System.

- 77. Pericarditis.
- 78. Acute Endocarditis.
- 79. Organic Diseases of the Heart.
- 80. Angina Pectoris.
- 81. Diseases of the Arteries, Atheroma, Aneurism, etc.
- 82. Embolism and Thrombosis.
- 83. Diseases of the Veins (Varices, Hemorrhoids, Phlebitis, etc.).
- 84. Diseases of the Lymphatic System (Lymphangitis, etc.).
- 85. Hemorrhages
- 86. Other Diseases of the Circulatory System.

## IV.

## Diseases of the Respiratory System.

- 87. Diseases of the Nasal Fossæ.
- 88. Diseases of the Larynx.
- 89. Diseases of the Thyroid Body.
- 90. Acute Bronchitis.
- 91. Chronic Bronchitis.
- 92. Broncho-pneumonia.
- 93. Pneumonia.
- 94. Pleurisy.
- 95. Congestion and Apoplexy of the Lungs.
- 96. Gangrene of the Lungs.
- 97. Asthma.
- 98. Pulmonary Emphysema.
- 99. Other Diseases of the Respiratory System (Phthisis excepted).

## V.

## Diseases of the Digestive System.

- 100. Diseases of the Mouth and its Adnexa.
- 101. Diseases of the Pharynx.
- 102. Diseases of the Esophagus.
- 103. Ulcer of the Stomach.

- 104. Other Diseases of the Stomach (Cancer excepted).
- 105. Diarrhea and Enteritis (under 2 years).
- 105. *Repeated. Chronic Diarrhea and Enteritis (under 2 years).*
- 106. Diarrhea and Enteritis (2 years and over).
- 107. Intestinal Parasites.
- 108. Hernia and Intestinal Obstructions.
- 109. Other Diseases of the Intestines.
- 110. Acute Yellow Atrophy of Liver.
- 111. Hydatid Tumors of the Liver.
- 112. Cirrhosis of the Liver.
- 113. Biliary Calculi.
- 114. Other Diseases of the Liver.
- 115. Diseases of the Spleen.
- 116. Simple Peritonitis (Non-puerperal).
- 118. Appendicitis and Abscess of the Iliac Fossa.
- 117. Other Diseases of the Digestive System (Cancer and Tuberculosis excepted).

## VI.

Diseases of the Genito-Urinary System  
and its Adnexa.

- 119. Acute Nephritis.
- 120. Bright's Disease.
- 121. Other Diseases of the Kidneys and their Adnexa.
- 122. Calculi of the Urinary Tract.
- 123. Diseases of the Bladder.
- 124. Diseases of the Urethra, Urinary Abscess, etc.
- 125. Diseases of the Prostate.
- 126. Non-venereal Diseases of the Male Genital Organs.
- 127. Metritis.
- 128. Uterine Hemorrhage (Non-puerperal).
- 129. Uterine Tumor (Non-cancerous).
- 130. Other Diseases of the Uterus.
- 131. Cysts and Other Tumors of the Ovary.
- 132. Other Diseases of the Female Genital Organs.
- 133. Non-puerperal Diseases of the Breast (Cancer excepted).

## VII.

## The Puerperal State.

- 134. Accidents of Pregnancy.
- 135. Puerperal Hemorrhage.
- 136. Other Accidents of Labor.
- 137. Puerperal Septicæmia.
- 138. Puerperal Albuminuria and Convulsions.
- 139. Phlegmasia Alba Dolens (Puerperal).
- 140. Other Puerperal Accidents—Sudden Death.
- 141. Puerperal Diseases of the Breast.

## VIII.

## Diseases of the Skin and Cellular Tissue.

- 142. Gangrene.
- 143. Furuncle.
- 144. Acute Abscess, Phlegmon.
- 145. Other Diseases of the Skin and its Adnexa.

## IX.

## Diseases of the Organs of Locomotion.

- 146. Non-tuberculous Diseases of the Bones.

147. Arthritis and Other Diseases of the Joints (Tuberculosis and Rheumatism excepted).

- { 148. Amputation.  
149. Other Diseases of the Organs of Locomotion.

## X.

### Malformations.

150. Congenital Malformations (Stillbirths excluded).

## XI.

### Early Infancy.

- { 151. Congenital Debility, Icterus and Sclerema.  
152. Other Diseases Peculiar to Early Infancy.  
153. Lack of Care.

## XII.

### Old Age.

154. Senile Debility.

## XIII.

### External Causes.

- { 155. Suicide by Poison.  
156. Suicide by Asphyxia.  
157. Suicide by Hanging or Strangulation.  
158. Suicide by Drowning.  
159. Suicide by Firearms.  
160. Suicide by Cutting Instruments.  
161. Suicide by Jumping from High Places.  
162. Suicide by Crushing.  
163. Other Suicides.  
164. Fractures.  
165. Dislocations.  
167. Burns and Scalds.  
168. Burns from Corrosive Substances.  
169. Sunstroke.  
170. Freezing.  
171. Electric Shock.  
172. Accidental Drowning.  
173. Inanition (Starvation).  
174. Absorption of Deleterious Gases (Non-Suicidal).  
175. Other Acute Poisonings.  
166. Other Accidental Traumatisms.  
176. Other External Violence.

## XIV.

### Ill-Defined Diseases.

- { 177. Dropsy.  
178. Sudden Death.  
179. Causes of Death Unspecified or ill-defined.



# APPENDIX B.

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## THE LAWS OF RHODE ISLAND

(As amended February 1, 1896.)

IN RELATION TO THE REGISTRATION OF

## BIRTHS, MARRIAGES, AND DEATHS.

AND OF DIVORCE.

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### GENERAL LAWS, CHAPTER 100.

#### OF THE REGISTRATION OF BIRTHS, MARRIAGES, AND DEATHS.

SECTION 1. The town clerks of the several towns, or any person whom the board of aldermen of any city, or the town council of any town, may appoint for that purpose, shall obtain, chronologically record and index, as required by the forms prescribed by section three of this chapter, all information concerning births, marriages, and deaths occurring among the inhabitants of their respective towns; and on or before the first Monday in March, annually, shall make duly certified returns thereof to the secretary of the state board of health for the year ending on the thirty-first day of December next preceding, accompanying the same with a list of the persons required by law to make returns to them who have neglected to do so, and with such remarks relating to the object of this chapter as they may deem important to communicate.

SEC. 2. The secretary of the state board of health shall receive the returns made in pursuance of the preceding section, and annually make a general abstract and report thereof, in form as prescribed by section three of this chapter, and publish not exceeding one thousand copies thereof; and for preparing, tabulating, and publishing said annual report such sum as may be provided by law shall be paid to the state registrar. Said returns, after such report is prepared, shall be deposited in the office of the secretary of state, who shall cause the same to be

arranged, full alphabetical indices of all the names to be made, and the whole to be bound in volumes of convenient size and carefully preserved in his office.

SEC. 3. The blank forms required to carry out the provisions of this chapter shall, on application, be furnished by the secretary of the state board of health to clergymen, physicians, undertakers, town clerks, clerks of meetings of the Society of Friends, and other persons requiring them, substantially as follows: The record of a birth shall state the date and place of birth, name of the child if it has any, the sex and color of the child, whether born alive or still-born, the name and surname, color, residence, and birthplace of the parents, and the occupation of the father, and the time of recording, so far as the same can be ascertained. The record of a marriage shall state the date of the marriage, place, name, residence, and official station of the person by whom married, names and surnames of the parties, age, color, occupation, and residence of each, condition, that is, whether single or widowed, what marriage, that is, whether first, second, third, or other marriage, the occupation, birthplace, and name of their parents, and the time of recording, so far as the same can be ascertained. The record of deaths shall state the date of the death, name and surname of deceased, the sex, color, and condition, whether single or married, age, occupation, place of death, place of birth, name and birthplace of parents, disease or cause of death, and the time of recording, so far as can be ascertained.

SEC. 4. Every meeting of the Society of Friends, clergymen, and all others authorized to join persons in marriage, shall make a faithful record of every such rite performed by them, in manner and form aforesaid, and return the same for the last preceding month, on or before the second Monday of every month, to the town clerk of the town in which such rite shall have been performed; and no marriage shall be solemnized until the parties shall have signed and delivered to the person about to solemnize it, or to a clerk of a meeting of the Society of Friends, a certificate containing the information required for the record of a marriage, as prescribed by this chapter.

SEC. 5. The town clerk of every town shall annually, in the month of January, collect the information required by this chapter, in relation to all children born in the town during the year ending on the thirty-first day of December next preceding.

SEC. 6. Physicians and midwives shall, on or before the fifth day of each month, report to the clerk of each city or town a correct list of all children born therein during the month next preceding, at whose birth they were present, stating the date and place of each birth, the name of the child if it has any, the sex and color of the child, the name, place of birth and residence of the parents, and the occupation of the father. The fee of the physician or midwife shall be twenty-five cents for each birth so reported, and shall be paid by the city or town in which the report is made.

SEC. 7. Whenever any person shall die, or any still-born child shall be brought forth in this state, the physician attending at such bringing forth or last sickness, if any physician so attended, shall, within forty-eight hours after such

death or bringing forth, leave with the family, if any, or person having the care of the deceased, or the person bringing forth such still-born child, or give to the undertaker or person who conducts the funeral, a certificate stating, in case of a death, the name of the deceased, the date of the death, and the disease or cause of the death; and in case of the bringing forth of a still-born child, the date and the cause of such child being brought forth still-born: *Provided, however,* that if the physician last in attendance shall not have knowledge of such death, or is otherwise reasonably prevented from leaving with the family or giving the undertaker such certificate within the time hereinbefore specified, or before the funeral or disposal of the remains of the deceased, he shall, within five days after having knowledge of such death by notification or otherwise, send to the town or city clerk or registrar of the town or city in which such death occurred a certificate, stating the name, date, and disease or cause of death of such decedent.

SEC. 8. Every town council may appoint a sufficient number of persons to act as undertakers, removable at the pleasure of such council.

SEC. 9. No undertaker or other person shall conduct a funeral, or bury or deposit in a tomb, or remove from this state or otherwise dispose of the remains of any deceased person or still-born child, unless he shall first obtain the physician's certificate required by section seven of this chapter, if a physician was in attendance upon such person who has deceased or the person bringing forth such still-born child, and shall return the same, together with his own certificate of the information required by section three of this chapter, to the town clerk of the town where such death or bringing forth took place: *Provided, however,* that in such towns as allow the burial or removal of bodies of deceased persons without a permit from the town clerk, and if the undertaker or other person who has charge of the disposal of the remains of the deceased person is unable to obtain the said physician's certificate, after reasonable attempts therefor, before the burial or removal of the said remains, then the said undertaker or other person shall make his return as required by section three of this chapter, including the cause of death and the name of the physician last in attendance upon the deceased, immediately to the town or city clerk or registrar of the town or city in which the death occurred. He shall, also, within two days thereafter, notify the physician last in attendance upon the deceased person of the name and date of death of the same.

SEC. 10. Clergymen of all denominations who officiate at the funerals of decedents when no undertaker is in attendance shall, when requested by the state registrar, or the town or city clerk or registrar of the town or city in which such deaths occurred, make returns of such deaths in the same manner and with the same compensation as undertakers.

SEC. 11. Any town may make ordinances more effectually to attain the objects herein contemplated.

SEC. 12. The town clerks, or persons appointed as aforesaid, shall receive for each record of a death made and returned as required by law, and for each



record of a marriage made and returned as required by law, twenty cents, to be paid to them out of their respective town treasuries: *Provided*, that the yearly compensation to be paid out of the town treasury as aforesaid, to any one town clerk or person appointed as aforesaid, who shall perform the duties prescribed by this chapter, shall not be less than five dollars. Undertakers and others making returns of deaths, as required by sections seven and nine of this chapter, shall receive for each full report of a death made to the town clerk, five cents in the cities of Providence and Newport, and ten cents in the other towns of the state.

SEC. 13. Every clergyman, physician, midwife, undertaker, town clerk, clerk of any meeting of the Society of Friends, or other person who shall willfully or unreasonably neglect or refuse to perform any of the duties imposed on or required of him by this chapter, shall be fined not exceeding twenty dollars nor less than two dollars for each offence, one-half thereof to the use of the town in which the offence shall occur, and one-half thereof to the use of the person who shall complain of the same.

SEC. 14. Every clergyman, physician, coroner, undertaker, medical examiner, or clerk of any meeting of the Society of Friends, shall cause his name, residence, and post-office address to be recorded in the town clerk's office of the town where he resides.

SEC. 15. No letters of administration or letters testamentary shall be granted by any court of probate upon the estate of any person, until the death of such person, or the facts from which the same is presumed, shall be duly certified, as near as may be, to the town clerk, in order that the same may be duly registered according to the provisions of this chapter.

SEC. 16. The town and city clerks, and registrars of the several towns and cities, shall have the custody of all records of births, deaths, and marriages of their respective towns, whether made under the statutes now in force or any former statute, and a certificate signed by them, certifying that any written or printed statement of any marriage, birth, or death is a true copy of the record in their custody, shall be admitted as evidence of such marriage, birth, or death.

SEC. 17. Births, marriages, and deaths of non-residents shall be distinguished from those of residents in the returns by being arranged separately.

SEC. 18. The secretary of the state board of health may from time to time vary the forms of returns, and require such additional information as he may consider necessary to accomplish the object of this chapter.

SEC. 19. The town clerks or other officers appointed under this chapter to collect, record, and return the births in the several cities and towns, shall receive fees therefor as follows: For making record and return of these facts as required by law, twenty cents for each entry and return; to be paid by the city or town in which the birth is recorded.

SEC. 20. The clerk or registrar of each town and city shall, on the first day of each and every month, make a certified copy of all births, marriages, and deaths recorded in the books of said town or city during the previous month,

whenever the parents of the child born, or the bride or the groom, or the deceased person, were resident in any other town or city in this state, or in any other state, at time of said birth, marriage, or death; and shall transmit such certified copies to the clerk or registrar of the town, city, or state in which such parents of the child born, the bride or the groom, or the deceased, were resident at the time of said birth, marriage, or death, stating, in case of a birth, the name of the street and number of the house, if any, where such parents resided, the place of birth of such parents, and the maiden name of the mother, whenever the same can be ascertained; and the clerk or registrar so receiving such certified copies shall record the same in the books kept for recording births, marriages, and deaths. Such certified copies shall be made upon blanks to be furnished for that purpose by the secretary of the state board of health.

SEC. 21. The town clerks of the several towns, or other persons appointed under this chapter to collect the births in the several towns, shall annually in the month of January collect the facts concerning the births within their respective towns, required by this chapter, and shall, so far as practicable, at the same time collect the names of all persons liable to be enrolled in the militia, as required by title thirty-four, and the census of all persons between the ages of five and fifteen years inclusive, as provided by chapter fifty-four, and shall receive therefor such compensation as the town council or the board of aldermen of their respective cities shall determine: *Provided*, that the city of Providence shall be exempt from so much of the provisions of this section as relates to the collection of the statistics of births.

SEC. 22. Blanks for the foregoing purposes shall be furnished, on application therefor, on or before the first day of December in the year preceding, by the state board of health for the collection of births, by the adjutant-general for the taking of the enrolled militia, and by the commissioner of public schools for the census aforesaid.

SEC. 23. The person or persons who shall discharge the duties required by section twenty-one of this chapter, if other than the town clerk, shall make full return thereof to the town clerk of his or their town, on or before the tenth day of February next following.

SEC. 24. The returns required to be made by the clerks of the appellate division of the supreme court, in relation to divorces, to the secretary of the state board of health, or a prepared abstract thereof, shall be published in the annual report of the births, marriages, and deaths in the state.

## SYNOPSIS OF THE LAW OF MARRIAGE.

## GENERAL LAWS, CHAPTER 191.

SECTIONS 1, 2, and 3 show what kindred persons cannot marry, and declare marriages within prohibited degrees null and void.

SECTION 4 makes an exception in favor of Jews, within the degrees of affinity or consanguinity allowed by their religion.

SECTION 5 declares the marriage of persons having a husband or wife living, and of idiots and lunatics, absolutely void.

SEC. 6. Any minister or elder of any religious denomination who shall be *domiciled* in the state, and shall have *registered* with the town clerk and have received a *license*, may join persons in marriage in this state.

SECTION 7 designates who shall be considered as belonging to a religious denomination within the meaning of the preceding section.

SEC. 8. Wardens in the town of New Shoreham may join persons in marriage in said town.

SECTION 9 designates who may join persons in marriage when solemnized among Quakers, or among persons professing the Jewish religion.

SEC. 10. Persons intending to be joined together in marriage in this state must first obtain a license from the town or city clerk of the town in which they respectively reside, or, if not residents of the state, from the clerk of the town or city in which the marriage is to be solemnized. The license shall contain the information called for so far as the same is known to such persons, each of whom shall subscribe to the truth of the same in the presence of the clerk or an assistant clerk of that town or city in which they respectively reside. For issuing such license the town or city clerk shall be entitled to a fee of one dollar: *Provided*, that when the persons intending to be joined in marriage live in different towns or cities in this state the fee shall be fifty cents in each town or city. Such license shall be presented to the minister, elder, justice, warden, or other person who performs the marriage ceremony.

SECTION 11 provides for the control of marriages of minors, and requires the written consent of the parent or guardian before the information provided for in section ten can be given. Persons over eighteen years of age, however, who may have no parent or guardian, may make oath relative to that fact to the city or town clerk, and may then give the required information called for in the application.

SECTION 12 requires that *each* of the persons married must present to the officiating clergyman a certified copy, as provided in section ten. These must

also be signed by the respective parties to the marriage in the presence of the clergyman. This is intended to identify the parties as being the same who appeared for the certificate from the town clerk.

SECTION 13 requires that the officiating clergyman shall endorse the certificate stating that he has joined the parties in marriage, and also that two witnesses of the marriage shall append their signatures. It also provides that the minister shall make a return of the certificate to the town clerk on or before the second Monday of the month succeeding the date of the marriage.

SECTION 14 provides for the care and preservation of the records.

SECTION 15 provides for the work of registration in the city of Providence to be done by the city registrar.

SECTION 16 provides for the recording of the returned certificates in the office of the town clerk, and the final lodgment of the certificates with the secretary of state. These are there to be properly indexed, and open to inspection only in the presence of some one connected with the office of the secretary of state.

SECTION 17 provides that two witnesses shall be present at the marriage ceremony.

SECTION 18 provides that lawful objection to a marriage shall be made in writing, and the officiating clergyman shall not proceed with the marriage until the objection is removed.

SECTION 19 provides for a penalty of six months imprisonment, or a fine of one thousand dollars, for joining persons in marriage without first having been presented with the certified copies required in section ten, or without having first returned any lawful objection to the marriage.

SECTION 20 provides for a penalty a fine of not exceeding one hundred dollars, for failure to perform any of the duties devolving upon the officiating officer under this chapter.

SECTION 21 provides for a fine for joining persons in marriage who have a husband or wife living.

SECTION 22 provides that no marriage shall be deemed or adjudged to be void by any failure on the part of the officiating officers to comply with the law, if the marriage is in other respects lawful and has been performed with a full belief on the part of the persons so married, or either of them, that they have been lawfully joined in marriage.

SEC. 23. Every person who shall solemnize a marriage without being legally authorized thereto shall be fined five hundred dollars.

## GENERAL LAWS, CHAPTER 195.

## OF DIVORCE.

SECTION 1. Divorces from the bond of marriage shall be decreed in case of any marriage originally void or voidable by law, and in case either party is for crime deemed to be or treated as if civilly dead, or from absence or other circumstances may be presumed to be actually dead.

SEC. 2. Divorces shall be decreed for impotency, adultery, extreme cruelty, willful desertion for five years of either of the parties, or for such desertion for a shorter period of time in the discretion of the court, for continued drunkenness, for the habitual, excessive, and intemperate use of opium, morphine, or chloral, for neglect or refusal on the part of the husband, being of sufficient ability, to provide necessaries for the subsistence of his wife, and for any other gross misbehavior and wickedness in either of the parties repugnant to and in violation of the marriage covenant.

SEC. 3. Whenever in the trial of any petition for divorce from the bond of marriage it shall be alleged in the petition that the parties have lived separate and apart from each other for the space of at least ten years, the court may in its discretion enter a decree divorcing the parties from the bond of marriage, and may make provisions for alimony.

SEC. 4. Whenever it shall appear that the absence, adultery, cruelty, desertion, or other cause of complaint as aforesaid was committed or occasioned by the collusion of the parties, and done and contrived with an intention to procure a divorce, in such case no divorce shall be decreed.

SEC. 5. Whenever a divorce is granted for fault on the part of the husband, the wife shall have dower as if the husband were dead; but such dower shall be claimed on proceedings begun within six months after the absolute decree, and, if not claimed within said period, or if claim be made for alimony within said period, then dower shall be deemed to be waived and released, and the only relief of the wife shall be a claim for alimony chargeable upon the estate of the husband, or some specific portion thereof as the court may decree: *Provided*, that in case of such divorce between parties married before the Digest of eighteen hundred forty-four went into operation, the wife shall be re-instated in all of her real estate, and have restored to her all of her personal estate not, in either case, disposed of at the date of the filing of the petition for said divorce.

SEC. 6. Whenever a divorce is granted for fault on the part of the wife, the husband, if he be entitled to curtesy-initiate, shall have a life estate in all the lands of the wife as if the wife were dead, but subject to such allowance to the



wife, to be charged on such life estate, as the court in the peculiar circumstances of the case may deem just and proper.

SEC. 7. Otherwise than as provided in the two preceding sections neither husband or wife, on divorce being granted, shall have any right in the estate of the other.

SEC. 8. Divorces from bed, board, and further cohabitation, until the parties be reconciled, may be granted for any of the causes for which by law a divorce from the bond of marriage may be decreed, and for such other causes as may seem to require the same. In case of such divorce the court may assign to the petitioner a separate maintenance out of the estate or property of the husband or wife, as the case may be, in such manner and of such amount as it may think necessary or proper.

SEC. 9. Every petition shall be signed by the petitioner, if of sound mind and of legal age to consent to marriage; otherwise, upon application to the court, and after notice to the party in whose name the petition shall be filed, the court may allow such petition to be signed by a guardian or next friend.

SEC. 10. No petition for divorce shall be granted unless the petitioner shall at the time of preferring such petition be a domiciled inhabitant of this state, and have resided therein for the period of one year next before the preferring of such petition.

SEC. 11. All such petitions shall be filed, heard, and tried in Providence, unless the petitioner shall reside in the county of Newport or in the county of Washington, in which case such petition shall be filed, heard and tried in Newport or South Kingstown respectively.

SEC. 12. The court may by general rule determine the return-day of petitions for divorce and prescribe the notice to be given, within or without the state, on all such petitions, and may issue such process as may be necessary to carry into effect all powers conferred upon it in relation to the same; and said court may also, by general rule, fix the times, during its session, when all petitions for divorce shall be heard, as they may be filed in Providence, Newport, or South Kingstown, respectively. Such general rules shall, however, be subject to such special orders as the court may make in special cases. And, until general rules are made, special order in each case shall be made.

SEC. 13. Whenever any petition for divorce shall have been filed or be pending in the appellate division of the supreme court, and said court shall be of the opinion that sufficient notice of the pendency of said petition shall not, from any cause, have been given to the adverse party, said court may order notice or further notice to the adverse party to be given in such manner as the court may prescribe.

SEC. 14. The said court may regulate the custody and provide for the education, maintenance, and support of the children of all persons by them divorced or petitioning for a divorce, and all persons to whom a separate maintenance may be granted or who may petition for the same; may in its discretion make such allowance to the wife, out of the estate of the husband, for the purpose



of enabling her to prosecute or defend against any such petition for divorce or separate maintenance, in case she has no property of her own available for such purpose, as they may think reasonable and proper; and may make all necessary orders and decrees concerning the same, and the same may at any time alter, amend, and annul for sufficient cause, after notice to the parties interested therein.

SEC. 15. Any woman to whom a divorce from the bond of marriage is decreed may be authorized by such decree to change her name, subject to the same rights and liabilities as if her name had not been changed.

SEC. 16. After the filing and during the pendency of any petition for divorce the said court may make such interlocutory decrees and grant such temporary injunctions as may be necessary until a hearing can be had before said court.

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## GENERAL LAWS, CHAPTER 225.

### OF DIVORCES.

SECTION 9. The clerks of the appellate division shall make returns to the secretary of the state board of health, on or before the first day of March in each and every year, for the year ending on the thirty-first day of December preceeding, of all the applications for divorce, showing the number of applications, the number thereof continued, the number granted, and the causes for which the same are granted, but without the names of the parties, in accordance with the blanks which shall be furnished them by the secretary of state.

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## CHAPTER 287.

### OF MEDICAL EXAMINERS AND CORONERS.

SECTION 1. The governor shall appoint, in each county, able and discreet men, learned in the science of medicine, to be medical examiners in such county.

SEC. 2. The number of medical examiners appointed as provided in the preceding section shall be as follows:

For the county of Washington five examiners, one in each of the five following districts, viz.: District one, composed of the town of Westerly; district two, of the town of South Kingstown; district three, of the town of Hopkinton; district four, of the towns of North Kingstown and Exeter; district five, of the towns of Charlestown and Richmond.

For the county of Kent two examiners, one in each of the two following districts, viz.: District one, composed of the towns of West Greenwich and Coventry; district two, of the towns of East Greenwich and Warwick.

For the county of Providence eleven examiners, one in each of the first nine following districts, and in district ten two examiners, viz.: District one composed of the towns of Scituate and Foster; district two, of the towns of Cranston and Johnston; district three, of the town of Glocester; district four, of the towns of Smithfield and North Providence; district five, of the towns of Burrillville and North Smithfield; district six, of the city of Woonsocket; district seven, of the town of Cumberland; district eight, of the cities of Pawtucket and Central Falls and the town of Lincoln; district nine, of the town of East Providence; district ten, of the city of Providence.

For the county of Bristol two examiners, one in each of the following districts, viz.: District one, composed of the towns of Barrington and Warren; and district two, of the town of Bristol.

\*The number of medical examiners for the county of Newport shall be five, one in each of the first three districts and two in district four; and said districts shall be composed as follows: District one, of the towns of Tiverton and Little Compton; district two, the town of Portsmouth; district three, the town of New Shoreham; district four, the city of Newport and the towns of Middletown and Jamestown.

SEC. 3. If either of the medical examiners shall, at any time, from any cause, be unable to perform the duties of his said office, or shall be deemed by the attorney-general for any cause disqualified therefor, a medical examiner from an adjoining district may be called upon to perform them.

SEC. 4. Every medical examiner shall hold his office for the term of six years, and until another is appointed and qualified to act in his place, unless sooner removed by the appointment of some other person to fill his place.

SEC. 5. Every medical examiner shall, within thirty days after his appointment, and before entering upon the duties of his office, give bond with surety to, and to the satisfaction of, the general treasurer in the sum of one thousand dollars for the faithful performance of his duties.

SEC. 6. If the condition of any such bond be broken, to the injury of any person, actions may be brought upon such bond as upon the official bonds of sheriffs.

SEC. 7. Medical examiners shall make examinations as hereinafter provided, upon bodies of such persons only as are supposed to have come to their death by violence: *Provided*, that in case any prisoner in the state prison or in any county jail dies while so imprisoned, it shall be the duty of the medical examiner of the district in which such prison or county jail is situated, upon being notified of the death of such prisoner, to make at once an examination upon the body of such deceased prisoner.

SEC. 8. When a medical examiner has notice that there has been found, or is lying, within his district the body of a person who is supposed to have come to his death by violence, he shall forthwith repair to the place where such body lies

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\* As amended April 16, 1896.

and take charge of the same; and if, on view thereof and personal inquiry into the cause and manner of the death, he deems a further examination necessary, he shall, upon being thereto authorized in writing by the attorney-general, or by the mayor of the city or president of the town council of the town where such body lies, make an autopsy in the presence of two or more discreet persons as witnesses, and shall then and there carefully reduce, or cause to be reduced, to writing every fact and circumstance tending to show the condition of the body and the cause and manner of death, together with the names and addresses of said witnesses, which record he shall subscribe. Before making such autopsy he shall call the attention of the witnesses to the position and appearance of the body

SEC. 9. Should the medical examiner deem it advisable to have present a physician as one of the witnesses as aforesaid, such physician shall also subscribe the record made by the medical examiner, and for such service he shall receive a compensation of five dollars.

SEC. 10. Town councils shall select a suitable person to act as coroner for their respective towns, to hold his office for three years and until another is elected and qualified to act in his place, unless sooner removed by the election of some other person to fill his place.

SEC. 11. The coroners so elected shall have exclusive jurisdiction as coroners in their respective towns.

SEC. 12. The coroner shall appoint in writing, under his hand and seal, one or more discreet persons to act as his deputy in case of his absence or inability to act, who shall have all the powers of a coroner, and be subject to like pains and penalties, for malfeasance in office; and the coroner shall file a copy of the appointment in the town clerk's office of his town.

SEC. 13. The coroner may suspend or discharge a deputy. The suspension or discharge of a deputy shall be in writing, addressed to the deputy; and the coroner shall forthwith file a duplicate thereof in the town clerk's office of his town.

SEC. 14. Every coroner and deputy coroner shall, before entering upon the duties of his office, take the engagement prescribed in section five of chapter twenty-five.

SEC. 15. Whenever the coroner has notice that there is in his town any person who has been injured by the criminal act, omission, or carelessness of another, and that said person believes that his death is impending from such injury, said coroner may take the statement of such person concerning the manner in which, and the person by whom, such injury was inflicted; and the statement so taken shall be reduced to writing and, if practicable, in the presence of the injured person.

SEC. 16. If, upon such view, personal inquiry or autopsy, the medical examiner is of the opinion that the death was caused by the act or neglect of some person other than the deceased, he shall at once notify the attorney-general, and coroner of the town where the body was found, or in which it lies, and shall file a duly attested copy of the record of his autopsy, or view, with the said coroner and

a like copy with the attorney-general; and shall in all cases certify to the officer having the custody of the records of deaths in the town in which the deceased came to his death, the name and residence of the person deceased, if known, or, when the name and residence cannot be ascertained, a description of the deceased, as full as possibly may be, for identification, together with the cause and manner by and in which he came to his death.

SEC. 17. The coroner shall thereupon hold an inquest, which may be private; in which case any or all persons, other than those required to be present by the provisions of this chapter, may be excluded from the place where such inquest is held, and such coroner may also direct the witnesses to be kept separate so that they cannot converse with each other until they have been examined. The attorney-general, or some person designated by him, may attend the inquest and examine all witnesses; and the coroner shall cause the testimony to be reduced to writing and signed by the witnesses. The attorney-general may, if he deem it necessary or expedient, direct an inquest to be held in the case of any casualty from which the death of a person results.

SEC. 18. The coroner may issue summons for witnesses, returnable before him. The persons served with such process shall be allowed the same fees, their attendance may be enforced in the same manner, and they shall be subject to the same penalties, as if served with a summons in behalf of the state in a criminal prosecution pending before a district court.

SEC. 19. The coroner shall, after hearing the testimony, draw up and sign a report, in which he shall find and certify when, where, and by what means the person deceased came to his death; his name, if known, and all material circumstances attending his death; and if it appears that his death resulted wholly or in part from the unlawful act of any other person, he shall further state the name of such person, if known to him, and he shall file such report, and the testimony by him taken, together with a copy of the record of the autopsy or view, in the office of the clerk of the court wherein an indictment for the offence may be found.

SEC. 20. The coroner shall bind such witnesses as he deems necessary, or as the attorney-general may designate, by recognizance in a reasonable sum, with sufficient surety, to personally appear, at such time as the coroner may designate, at the district court of the district wherein the inquest is held, and not depart therefrom until discharged by said court; and if any such witness shall refuse to recognize as aforesaid, the coroner shall commit such witness to the jail in the same county, there to remain until he shall so recognize or be otherwise discharged according to law.

SEC. 21. If the report of the coroner shall state that the death was caused by the unlawful act or by the gross carelessness of any other person, and by whose act the same was committed, he shall immediately make a complaint thereof against the person accused, in writing and on oath, to the justice or clerk of the district court in the district where the offence was committed, to the intent that the person killing or being in any way criminally instrumental to the death

may be apprehended; but nothing herein contained shall be so construed as to prevent complaint being made at any time before the finding of the report. And the coroner shall forthwith, in writing, notify the attorney-general of the complaint aforesaid, that he may appear by himself or some person appointed by him, at the examination, and prosecute the claim in behalf of the state.

SEC. 22. If a medical examiner reports that a death was not caused by the act or neglect of some person other than the deceased, and the attorney-general is of a contrary opinion, the attorney-general may, notwithstanding such report, direct an inquest to be held in accordance with the provisions of this chapter; at which inquest he, or some other person designated by him, shall examine all the witnesses.

SEC. 23. The medical examiner may, if he deem it necessary, employ a chemist to aid in the examination of the body, or of substances supposed to have caused or contributed to the death; and such chemist shall be entitled to such compensation for his services as the medical examiner certifies to be just and reasonable, the same being audited and allowed in the manner hereinafter provided.

SEC. 24. When a medical examiner views or makes an examination of the dead body of a stranger, he shall cause the body to be decently buried; and if he certifies that he has made careful inquiry, and that to the best of his knowledge and belief the person found dead is a stranger, having no settlement in any town of the state, his fees, with the actual expense of burial, shall be paid from the general treasury. In all other cases the expense of the burial shall be first paid by the town wherein the body is found, and such town may recover the money so paid from the town where such person last had a settlement: *Provided, however*, that the general treasurer, or any town, ultimately paying any such burial expenses, shall have the right to recover such burial expenses from the estate of the deceased person.

SEC. 25. When services are rendered in bringing to land the dead body of a person found in any of the harbors, rivers, or water of the state, the medical examiner may allow such compensation for such services as he deems reasonable; but this provision shall not entitle any person to compensation for services rendered in searching for a dead body.

SEC. 26. In all cases arising under the provisions of this chapter, the medical examiner shall take charge of any money or other personal property of the deceased, found upon or near the body, and shall deliver the same to the person entitled to its custody or possession; or if not claimed by such person within sixty days, then to an administrator, to be administered upon according to law.

SEC. 27. A medical examiner who fraudulently neglects or refuses to deliver any such property within three days, after demand upon him therefor, shall be imprisoned not exceeding two years or be fined not exceeding five hundred dollars.

SEC. 28. The fees of coroners shall, for the services specified in this chapter, be as follows, namely: For receiving and filing a duly attested copy of the



record of an autopsy, fifty cents; for every page of two hundred words of written testimony, thirty cents; for each day's attendance in holding the inquest, five dollars; for the recognizance of witnesses, thirty-five cents; and for drawing up and filing a report in court, five dollars. Said fees having been audited by the state auditor, upon certificate of the attorney-general, shall be paid by the general treasurer.

SEC. 29. Each medical examiner shall receive fees as follows: For a view without an autopsy, four dollars; for a view and an autopsy, thirty dollars; and for travel, at the rate of ten cents a mile to the place of view. He shall also have power, in case of an autopsy, to employ a clerk at an expense not exceeding three dollars per day for each day's actual service.

SEC. 30. Every medical examiner shall return an account of the expenses of each view or autopsy, including his fees, to the state auditor, and shall annex to his return the written authority under which the autopsy was made. The state auditor shall audit such account and certify to the general treasurer what items in such account are deemed just and reasonable, and such items shall be paid by said treasurer to the persons entitled to receive the same.

SEC. 31. Medical examiners shall, in the books provided by the secretary of state, keep a record of all views of bodies found dead, together with their view and autopsy reports, and, on the first of January, April, July, and October, shall forward to the secretary of the state board of health attested copies of such records of views, together with the view reports and conclusions from autopsies. Should the commission of service of a medical examiner expire before the end of a quarter, the said examiner shall at once forward to the said secretary of the state board of health the records and reports of all cases unreported at date of expiration of said service.

SEC. 32. For each and every copy of said records and reports forwarded to the said secretary of the state board of health, medical examiners shall receive twenty-five cents, which shall be paid by the state upon the voucher of said secretary of the state board of health that such copy of reports and records have been received by him.

SEC. 33. The secretary of the state board of health shall cause the returns received by him for each year, in accordance with this chapter, to be bound together with an index thereto; the state registrar shall prepare or cause to be prepared from the said returns such tabular results as will render them of practical utility, and shall make report thereof annually in connection with the report of births, marriages, and deaths required by chapter one hundred.





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